

A1-F18AC-FIM-010

15 December 1987

Change 6 - 1 July 1995

TECHNICAL MANUAL

ORGANIZATIONAL MAINTENANCE FAULT ISOLATION MANUAL

**NAVY MODEL
F/A-18A/B/C/D
161353 AND UP**

This volume is one of two volumes and is incomplete without A1-F18AC-FIM-000.

This volume contains WP131 00 through WP178 00.

DISTRIBUTION STATEMENT C. Distribution authorized to US Government agencies and their contractors to protect publications required for official use or for administrative or operational purposes only, determined on 15 December 1987. Other requests for this document shall be referred to Commanding Officer, Naval Air Technical Services Facility, 700 Robbins Avenue, Philadelphia, PA 19111-5097.

DESTRUCTION NOTICE - For unclassified, limited documents, destroy by any method that will prevent disclosure of contents or reconstruction of the document.

*Published by Direction of the
Commander, Naval Air Systems Command*

0801LP0031780

NATEC ELECTRONIC MANUAL

A1-F18AC-FIM-010

Change 6 - 1 July 1995

Page A

NUMERICAL INDEX OF EFFECTIVE WORK PACKAGES/PAGES

List of Current Changes

Original015 Dec 87 Change.....1.....1 Aug 89 Change.....2.....15 Aug 90 Change.....3.....15 Feb 92
Change.....4.....15 Sep 93 Change.....5.....15 Aug 94 Change.....6.....1 Jul 95

Only those work packages/pages assigned to the manual are listed in this index. Insert Change 6, dated 1 July 1995. Dispose of superseded work packages/pages. Superseded classified work packages/pages shall be destroyed in accordance with applicable security regulations. If changed pages are issued to a work package, insert the changed pages in the applicable work package. The portion of text affected in a change or revision is indicated by change bars or the change symbol "R" in the outer margin of each column of text. Changes to illustrations are indicated by pointing hands, change bars, or MAJOR CHANGE symbols. Changes to diagrams may be indicated by shaded borders.

Total number of pages in this manual is 138 consisting of the following:

WP/Page Number	Change Number	WP/Page Number	Change Number	WP/Page Number	Change Number	WP/Page Number	Change Number
Title	6	140 00		160 00		5.....	0
A.....	6	1.....	2	1.....	0	6.....	0
B.....	6	2.....	2	2.....	0	7.....	0
C blank.....	6	3.....	2	3.....	0	8.....	0
TPDR-1.....	6	4.....	2	4 blank.....	0	165 00	
TPDR-2 blank.....	6	5.....	2	161 00		1.....	0
131 00 deleted.....	0	6.....	2	1.....	0	2.....	0
132 00 deleted.....	3	141 00 deleted.....	0	2 blank.....	0	3.....	0
133 00 deleted.....	0	142 00 deleted.....	0	161 01		4.....	0
134 00 deleted.....	6	143 00 deleted.....	0	1.....	0	5.....	0
135 00 deleted.....	6	144 00 deleted.....	0	2.....	0	6.....	0
136 00 deleted.....	6	145 00 deleted.....	0	3.....	0	7.....	0
137 00 deleted.....	6	146 00 deleted.....	0	4 blank.....	0	8 blank.....	0
138 00 deleted.....	6	147 00 deleted.....	0	161 02		166 00	
139 00		148 00 deleted.....	0	1.....	0	1.....	0
1.....	0	149 00 deleted.....	0	2.....	0	2.....	0
2 blank.....	0	150 00 deleted.....	0	3.....	0	3.....	0
139 01		151 00 deleted.....	0	4 blank.....	0	4.....	0
1.....	0	152 00		162 00		5.....	0
2.....	0	1.....	0	1.....	0	6.....	0
3.....	0	2.....	0	2.....	0	7.....	0
4.....	0	3.....	0	3.....	0	8.....	0
5.....	0	4.....	0	4.....	0	167 00	
6.....	0	153 00		5.....	0	1.....	5
7.....	0	1.....	0	6 blank.....	0	2 blank.....	5
8.....	0	2.....	0	163 00		167 01	
9.....	0	3.....	0	1.....	0	1.....	5
10 blank.....	0	4.....	0	2.....	0	2.....	5
139 02		154 00		3.....	0	3.....	5
1.....	0	1.....	0	4.....	0	4.....	5
2.....	0	2.....	0	5.....	0	5.....	5
3.....	0	3.....	0	6.....	0	6.....	5
4.....	0	4 blank.....	0	7.....	0	7.....	5
5.....	0	155 00 deleted.....	0	8 blank.....	0	8 blank.....	5
6.....	0	156 00 deleted.....	0	164 00		167 02	
7.....	0	157 00 deleted.....	0	1.....	0	1.....	5
8.....	0	158 00 deleted.....	0	2.....	0	2.....	5
9.....	0	159 00 deleted.....	0	3.....	0	3.....	5
10 blank.....	0			4.....	0	4.....	5

A1-F18AC-FIM-010

Change 6 - 1 July 1995

Page B/(C blank)

WP / Page Number	Change Number	WP / Page Number	Change Number	WP / Page Number	Change Number	WP / Page Number	Change Number
5.....	5						
6.....	5						
168 00 deleted	0						
169 00 deleted	0						
170 00 deleted	6						
171 00 deleted	1						
172 00 deleted	0						
173 00 deleted	0						
174 00							
1.....	1						
2.....	1						
3.....	1						
4.....	1						
5.....	1						
6.....	1						
7.....	1						
8.....	1						
9.....	1						
10 blank	1						
175 00							
1.....	6						
2.....	6						
3.....	6						
4.....	6						
5.....	6						
6.....	6						
7.....	6						
8.....	6						
9.....	6						
10 blank	6						
176 00 deleted	6						
177 00							
1.....	0						
2.....	0						
3.....	0						
4 blank	0						
178 00 deleted	6						

LIST OF TECHNICAL PUBLICATION DEFICIENCY REPORTS INCORPORATED

ORGANIZATIONAL MAINTENANCE

FAULT ISOLATION MANUAL

This WP supersedes TPDR WP, dated 15 August 1994.



-
1. The TPDRs listed below have been incorporated in this issue.

IDENTIFICATION NUMBER/ QA SEQUENCE NUMBER	LOCATION
NONE	

ORGANIZATIONAL MAINTENANCE

FAULT ISOLATION MANUAL

TROUBLESHOOTING PROCEDURE

Title	WP Number
Troubleshooting Procedure - F/A-18A and F/A-18B	139 01
Troubleshooting Procedure - F/A-18C and F/A-18D	139 02

ORGANIZATIONAL MAINTENANCE

FAULT ISOLATION MANUAL

TROUBLESHOOTING PROCEDURE

EFFECTIVITY: F/A-18A and F/A-18B

Reference Material

Line Maintenance Access Doors.....	A1-F18AC-LMM-010
Line Maintenance Procedures.....	A1-F18AC-LMM-000
Secondary Power System	A1-F18AC-240-500
Component Locator.....	WP003 00

Alphabetical Index

Subject	Page No.
Table 1.....	2

Record of Applicable Technical Directives

Type/ Number	Date	Title and ECP No.	Date Incorp.	Remarks
F18 AFC 27	-	Leading Edge Flap/Control Stick Changes (ECP MDA-F18-00044)	15 Jan 85	ECP cover- age only

Table 1. AMAD Ground Maintenance Mode Shut Down Without Operator Action

Support Equipment Required**NOTE**

Alternate item type designations or part numbers are listed in parentheses.

Part Number or

Type Designation

Nomenclature

260-6XLP

Multimeter

(AN/USM-311)

Materials Required

None

NOTE

Engine Start and Ground Maintenance Schematic (A1-F18AC-240-500, WP005 00) may be used as an aid when doing this procedure.

For component locator, refer to A1-F18AC-240-500, WP003 00.

Malfunction is caused by one of the items below:

Aircraft Wiring

APU Control Panel

Frequency Sensing Relay (FSR)

L/R Aircraft Mounted Accessory Drive (AMAD) Electrical Harness and Couple/Decouple Switches


L/R Air Turbine Starter (ATS)

L/R Air Turbine Starter Control Valve (ATSCV)

No. 4 Relay Panel Assembly

No. 8 Circuit Breaker/Relay Panel Assembly

**Table 1. AMAD Ground Maintenance Mode Shut Down Without Operator Action
(Continued)**

Procedure	No	Yes
<div style="text-align: center;">  </div> <p>To prevent damage to low level devices (switches/relay contacts), do not test for continuity with multimeter on the RX1 scale. Pin to pin tests that do not go through switches/relay contacts may use the RX1 scale.</p> <p>To prevent damage to battery bus contactors and/or batteries, be sure BATT switch is set to OFF and BATT SW caution light is off when procedure is complete.</p> <p>To prevent damage to aircraft wiring or equipment, make sure multimeter leads/jumper wires are installed on correct pins. When electrical power is off, 24vdc battery voltage exists on some pins of connectors listed below:</p> <p style="text-align: center;">52P-N118A 52P-C159G</p> <p style="text-align: center;">NOTE</p> <p>The question used in logic tree "Does continuity exist" means to test for the items listed below:</p> <ol style="list-style-type: none"> 1. Pin to pin test per procedural step. 2. Shorts to ground. 3. Shorts between surrounding pins on connectors. 4. Shorts between shield and conductors. 5. Shield continuity. 		
a. Did APU also shut down?	c	b
b. Do fluids test and maintenance code display of nose wheelwell digital display indicator and do required troubleshooting (A1-F18AC-LMM-000).....	-	-
c. On APU control panel, did ENG CRANK switch remain in L or R position for approximately 10 seconds before shutdown?	g	d
d. On APU control panel, set ENG CRANK switch to opposite crank position. Does switch remain in crank position?.....	f	e
e. Shut down APU (A1-F18AC-LMM-000). Replace ATS for first engine cranked (A1-F18AC-240-300, WP025 00) and do step ai	-	-
f. Shut down APU (A1-F18AC-LMM-000). Replace FSR (A1-F18AC-240-300, WP026 00) and do step ai.....	-	-

**Table 1. AMAD Ground Maintenance Mode Shut Down Without Operator Action
(Continued)**

Procedure	No	Yes
<div style="text-align: center; border: 1px solid black; padding: 5px; margin: 10px auto; width: fit-content;">WARNING</div> <p>To prevent destruction of ATS or injury to personnel, do not exceed two second ENG CRANK switch holding limit.</p>		
g. On APU control panel, set and hold ENG CRANK switch a maximum of two seconds in L or R position. Does L or R ATS rotate?.....	h	i
h. Do the substeps below:		
(1) Shut down APU (A1-F18AC-LMM-000).		
(2) On ELEC power control panel assembly, be sure BATT switch is OFF.		
(3) Remove door 53 L or R (A1-F18AC-LMM-010).		
(4) Disconnect 3P-R007 or 3P-P006 from ATSCV.		
(5) Apply battery power (A1-F18AC-LMM-000).		
<div style="text-align: center; border: 1px solid black; padding: 5px; margin: 10px auto; width: fit-content;">WARNING</div> <p>To prevent destruction of ATS or injury to personnel, do not exceed two second ENG CRANK switch holding limit.</p>		
(6) On APU control panel, set and hold ENG CRANK switch a maximum of two seconds in L or R position.		
(7) Does 24vdc exist at 3P-R007 or 3P-P006 pin 1?.....	t	s
i. Do the substeps below:		
(1) Shut down APU (A1-F18AC-LMM-000).		
(2) On ELEC power control panel assembly, be sure BATT switch is OFF.		
(3) On F/A-18A, open door 18. On F/A-18B, open door 96 (A1-F18AC-LMM-010).		
(4) Disconnect bulkhead disconnect 52P-E010A.		
(5) Apply battery power (A1-F18AC-LMM-000).		
(6) On APU control panel, set and hold ENG CRANK switch to L position.		

**Table 1. AMAD Ground Maintenance Mode Shut Down Without Operator Action
(Continued)**

Procedure	No	Yes
<p>(7) Does 24vdc exist at:</p> <p style="padding-left: 40px;">F/A-18A, 52P-E010A pin 24 F/A-18B, 52J-P010A pin 24?</p> <p>j. Do the substeps below:</p> <p style="padding-left: 40px;">(1) On ELEC power control panel assembly, set BATT switch to OFF.</p> <p style="padding-left: 40px;">(2) Remove APU control panel (A1-F18AC-240-300, WP018 00).</p> <p style="padding-left: 40px;">(3) Does continuity exist between 52P-H079, pin 18 and:</p> <p style="padding-left: 80px;">F/A-18A, 52J-E010A pin 24 F/A-18B, 52P-E010A pin 24?</p> <p>k. Repair APU control panel (A1-F18AC-240-300, WP018 00) and do step ai</p> <p>l. Isolate and repair defective aircraft wiring between 52P-H079, pin 18 and:</p> <p style="padding-left: 40px;">F/A-18A, 52J-E010A, pin 24 F/A-18B, 52P-E010A, pin 24</p> <p style="padding-left: 40px;">(A1-F18()-WDM-000) and do step ai</p> <p>m. Do substeps below:</p> <p style="padding-left: 40px;">(1) On ELEC power control panel assembly, set BATT switch to OFF.</p> <p style="padding-left: 40px;">(2) On 161353 THRU 161519 BEFORE F18 AFC 27, remove door 32L, on 161520 AND UP; ALSO 161353 THRU 161519 AFTER F18 AFC 27, remove door 94 (A1-F18AC-LMM-010).</p> <p style="padding-left: 40px;">(3) Disconnect 3P-M008 or 3P-N008 from FSR.</p> <p style="padding-left: 40px;">(4) Does continuity exist between 3P-M008 or 3P-N008, pin 6 and:</p> <p style="padding-left: 80px;">52P-E010A, pin 24 - F/A-18A 52J-P010A, pin 24 - F/A-18B?</p> <p>n. Do the substeps below:</p> <p style="padding-left: 40px;">(1) If operating R AMAD, on APU control panel, set ENG CRANK switch to R and test for voltage at 3P-M008 or 3P-N008 pin 4.</p> <p style="padding-left: 40px;">(2) If operating L AMAD, on APU control panel, set ENG CRANK switch to L and test for voltage at 3P-M008 or 3P-N008 pin 8.</p>	<p>m</p> <p>l</p> <p>-</p> <p>-</p> <p>-</p> <p>q</p>	<p>j</p> <p>k</p> <p>-</p> <p>-</p> <p>-</p> <p>n</p>

**Table 1. AMAD Ground Maintenance Mode Shut Down Without Operator Action
(Continued)**

Procedure	No	Yes
(3) Does 24vdc exist?	o	p
o. Do the substeps below:		
(1) On ELEC power control panel assembly, set BATT switch to OFF.		
(2) Remove door 32R (A1-F18AC-LMM-010).		
(3) Disconnect 52P-N118A from no. 4 relay panel assembly.		
(4) Does continuity exist between 3P-M008 or 3P-N008:		
pin 8 and 52P-N118A pin 54?	q	r
pin 4 and 52P-N118A pin 23?	q	r
p. Replace FSR (A1-F18AC-240-300, WP026 00) and do step ai	-	-
q. Isolate and repair defective aircraft wiring (A1-F18AC()-WDM-000) and do step ai	-	-
r. Repair no. 4 relay panel assembly (A1-F18AC-420-300, WP037 00) and do step ai	-	-
s. Replace L or R ATSCV (A1-F18AC-240-300, WP025 00) and do step ai	-	-
t. Do the substeps below:		
(1) On ELEC power control panel assembly, set BATT switch to OFF.		
(2) Remove door 32R (A1-F18AC-LMM-010).		
(3) Disconnect 52P-N118A from no. 4 relay panel assembly.		
(4) Does continuity exist between 52P-N118A:		
For left AMAD		
pin 18 and 3P-P006 pin 1?	q	u
For right AMAD		
pin 56 and 3P-R007 pin 1?	q	u
u. Do the substeps below:		
(1) Apply battery power (A1-F18AC-LMM-000).		

**Table 1. AMAD Ground Maintenance Mode Shut Down Without Operator Action
(Continued)**

Procedure	No	Yes
(2) Does 24vdc exist at 52P-N118A pin 26?.....	v	x
v. Do the substeps below:		
(1) On ELEC power control panel assembly, set BATT switch to OFF.		
(2) Open door 10L (A1-F18AC-LMM-010).		
(3) Disconnect 52P-C159G from no. 8 circuit breaker/relay panel assembly.		
(4) Apply battery power (A1-F18AC-LMM-000).		
(5) Does 24vdc exist at 52J-C159G pin 88?.....	w	q
w. Repair no. 8 circuit breaker/relay panel assembly (A1-F18AC-420-300, WP030 00) and do step ai.....	-	-
x. If L AMAD shut down, go to step ad, if R AMAD, do the substeps below:		
(1) Apply battery power (A1-F18AC-LMM-000).		
(2) On APU control panel, set ENG CRANK switch to R.		
(3) Does 24vdc exist at 52P-N118A pin 41?.....	y	r
y. Do the substeps below:		
(1) On ELEC power control panel assembly, set BATT switch to OFF.		
(2) Remove APU control panel (A1-F18AC-240-300, WP018 00).		
(3) Does continuity exist between 52P-H079 pin 21 and 52P-N118A pin 41?	aa	z
z. Repair APU control panel (A1-F18AC-240-300, WP018 00) and do step ai.....	-	-
aa. Do the substeps below:		
(1) Remove door 53R (A1-F18AC-LMM-010).		
(2) Disconnect 52P-R120 from AMAD.		
(3) Does continuity exist between 52P-H079 pin 21 and 52P-R120 pin 24?	q	ab
ab. Does continuity exist between 52P-R120 pin 21 and 52P-N118A pin 41?	q	ac

**Table 1. AMAD Ground Maintenance Mode Shut Down Without Operator Action
(Continued)**

Procedure	No	Yes
ac. Replace right AMAD electrical harness and couple/decouple switches (A1-F18AC-240-300, WP024 00) and do step ai.....	-	-
ad. Do the substeps below:		
(1) Connect 52P-C159G to no. 8 circuit breaker/relay panel assembly.		
(2) Apply battery power (A1-F18AC-LMM-000).		
(3) On APU control panel, set ENG CRANK switch to L.		
(4) Does 24vdc exist at 52P-N118A pin 53?.....	ae	r
ae. Do the substeps below:		
(1) On ELEC power control panel assembly, set BATT switch to OFF.		
(2) Remove APU control panel (A1-F18AC-240-300, WP018 00).		
(3) Does continuity exist between 52P-H079 pin 22 and 52P-N118A pin 53?	af	z
af. Do the substeps below:		
(1) Remove door 53L (A1-F18AC-LMM-010).		
(2) Disconnect 52P-P119 from AMAD.		
(3) Does continuity exist between 52P-H079 pin 22 and 52P-P119 pin 24?.....	q	ag
ag. Does continuity exist between 52P-P119 pin 21 and 52P-N118A pin 53?.....	q	ah
ah. Replace left AMAD electrical harness and couple/decouple switches (A1-F18AC-240-300, WP024 00) and do step ai	-	-
ai. If disconnected, removed, or opened during this procedure, make sure items listed below are connected, installed, or closed: (QA)		
(1) L/R ATS		
(2) L/R ATSCV		
(3) APU Control Panel		
(4) Frequency Sensing Relay		
(5) L/R AMAD Electrical Harness and Couple/Decouple Switches		
(6) No. 4 Relay Panel Assembly		

**Table 1. AMAD Ground Maintenance Mode Shut Down Without Operator Action
(Continued)**

Procedure	No	Yes
(7) No. 8 Circuit Breaker/Relay Panel Assembly		
(8) Door 53L/R		
(9) Door 32L/R		
(10) Door 18		
(11) Door 94		
(12) Door 10L		
(13) Door 96		
(14) 3P-P006		
(15) 3P-R007		
(16) 52P-E010A		
(17) 52P-P119		
(18) 52P-R120		
(19) 52P-H079		
(20) 52P-N118A		
(21) 3P-M008		
(22) 3P-N008		
(23) 52P-C159G	-	-

ORGANIZATIONAL MAINTENANCE

FAULT ISOLATION MANUAL

TROUBLESHOOTING PROCEDURE

EFFECTIVITY: F/A-18C AND F/A-18D

Reference Material

Line Maintenance Access Doors.....	A1-F18AC-LMM-010
Line Maintenance Procedures.....	A1-F18AC-LMM-000
Secondary Power System	A1-F18AC-240-500
Component Locator.....	WP003 00

Alphabetical Index

Subject	Page No.
Table 1.....	1


Record of Applicable Technical Directives

None

Table 1. AMAD Ground Maintenance Mode Shut Down Without Operator Action

Support Equipment Required	
NOTE	
Alternate item type designations or part numbers are listed in parentheses.	
Part Number or Type Designation	Nomenclature
260-6XLP (AN/USM-311)	Multimeter

**Table 1. AMAD Ground Maintenance Mode Shut Down Without Operator Action
(Continued)**

<p align="center">Materials Required</p> <p align="center">None</p> <p align="center">NOTE</p> <p>Engine Start and Ground Maintenance Schematic (A1-F18AC-240-500, WP005 00) may be used as an aid when doing this procedure.</p> <p>For component locator, refer to A1-F18AC-240-500, WP003 00.</p> <p>Malfunction is caused by one of the items below:</p> <p>Aircraft Wiring APU Control Panel Frequency Sensing Relay (FSR) L/R Aircraft Mounted Accessory Drive (AMAD) Electrical Harness and Couple/Decouple Switches L/R Air Turbine Starter (ATS) L/R Air Turbine Starter Control Valve (ATSCV) No. 4 Relay Panel Assembly No. 8 Circuit Breaker/Relay Panel Assembly</p>		
Procedure	No	Yes
<p align="center">  </p> <p>To prevent damage to low level devices (switches/relay contacts), do not test for continuity with multimeter on the RX1 scale. Pin to pin tests that do not go through switches/relay contacts may use the RX1 scale.</p> <p>To prevent damage to battery bus contactors and/or batteries, be sure BATT switch is set to OFF and BATT SW caution light is off when procedure is complete.</p> <p>To prevent damage to aircraft wiring or equipment, make sure multimeter leads/jumper wires are installed on correct pins. When electrical power is off, 24vdc battery voltage exists on some pins of connectors listed below:</p> <p align="center">52P-N118A 52P-C159G</p>		

**Table 1. AMAD Ground Maintenance Mode Shut Down Without Operator Action
(Continued)**

Procedure	No	Yes
<p style="text-align: center;">NOTE</p> <p>The question used in logic tree "Does continuity exist" means to test for the items listed below:</p> <ol style="list-style-type: none"> 1. Pin to pin test per procedural step. 2. Shorts to ground. 3. Shorts between surrounding pins on connectors. 4. Shorts between shield and conductors. 5. Shield continuity. 		
a. Did APU also shut down?	c	b
b. Do fluids test and maintenance code display of nose wheelwell digital display indicator and do required troubleshooting (A1-F18AC-LMM-000).....	-	-
c. On APU control panel, did ENG CRANK switch remain in L or R position for approximately 10 seconds before shutdown?	g	d
d. On APU control panel, set ENG CRANK switch to opposite crank position. Does switch remain in crank position?.....	f	e
e. Shut down APU (A1-F18AC-LMM-000). Replace ATS for first engine cranked (A1-F18AC-240-300, WP025 00) and do step ai	-	-
f. Shut down APU (A1-F18AC-LMM-000). Replace FSR (A1-F18AC-240-300, WP026 00) and do step ai.....	-	-
<div style="text-align: center; border: 2px solid black; padding: 5px; width: fit-content; margin: 10px auto;">WARNING</div> <p>To prevent destruction of ATS or injury to personnel, do not exceed two second ENG CRANK switch holding limit.</p>		
g. On APU control panel, set and hold ENG CRANK switch a maximum of two seconds in L or R position. Does L or R ATS rotate?.....	h	i
h. Do the substeps below:		
(1) Shut down APU (A1-F18AC-LMM-000).		
(2) On ELEC power control panel assembly, be sure BATT switch is OFF.		
(3) Remove door 53 L or R (A1-F18AC-LMM-010).		
(4) Disconnect 3P-R007 or 3P-P006 from ATSCV.		

**Table 1. AMAD Ground Maintenance Mode Shut Down Without Operator Action
(Continued)**

Procedure	No	Yes
(5) Apply battery power (A1-F18AC-LMM-000).		
<div style="border: 2px solid black; padding: 5px; text-align: center; margin: 10px auto; width: fit-content;"> WARNING </div> <p>To prevent destruction of ATS or injury to personnel, do not exceed two second ENG CRANK switch holding limit.</p>		
(6) On APU control panel, set and hold ENG CRANK switch a maximum of two seconds in L or R.		
(7) Does 24vdc exist at 3P-R007 or 3P-P006 pin 1?	t	s
i. Do the substeps below:		
(1) Shut down APU (A1-F18AC-LMM-000).		
(2) On ELEC power control panel assembly, be sure BATT switch is OFF.		
(3) On F/A-18C, open door 18. On F/A-18D, open door 96 (A1-F18AC-LMM-010).		
(4) Disconnect bulkhead disconnect 52P-E010A.		
(5) Apply battery power (A1-F18AC-LMM-000).		
(6) On APU control panel, set and hold ENG CRANK switch to L position.		
(7) Does 24vdc exist at:		
F/A-18C, 52P-E010A pin 24		
F/A-18D, 52J-P010A pin 24?	m	j
j. Do the substeps below:		
(1) On ELEC power control panel assembly, set BATT switch to OFF.		
(2) Remove APU control panel (A1-F18AC-240-300, WP018 00).		
(3) Does continuity exist between 52P-H079, pin 18 and:		
F/A-18C, 52J-E010A pin 24		
F/A-18D, 52P-E010A pin 24?	l	k
k. Repair APU control panel (A1-F18AC-240-300, WP018 00) and do step ai	-	-

**Table 1. AMAD Ground Maintenance Mode Shut Down Without Operator Action
(Continued)**

Procedure	No	Yes
l. Isolate and repair defective aircraft wiring between 52P-H079, pin 18 and: F/A-18C, 52J-E010A, pin 24 F/A-18D, 52P-E010A, pin 24 (A1-F18()-WDM-000) and do step ai.....	-	-
m. Do substeps below: (1) On ELEC power control panel assembly, set BATT switch to OFF. (2) Remove door 94 (A1-F18AC-LMM-010). (3) Disconnect 3P-N008 from FSR. (4) Does continuity exist between 3P-N008, pin 6 and: 52P-E010A, pin 24 - F/A-18C 52J-P010A, pin 24 - F/A-18D?	q	n
n. Do the substeps below: (1) If operating R AMAD, on APU control panel, set ENG CRANK switch to R and test for voltage at 3P-N008 pin 4. (2) If operating L AMAD, on APU control panel, set ENG CRANK switch to L and test for voltage at 3P-N008 pin 8. (3) Does 24vdc exist?	o	p
o. Do the substeps below: (1) On ELEC power control panel assembly, set BATT switch to OFF. (2) Remove door 32R (A1-F18AC-LMM-010). (3) Disconnect 52P-N118A from no. 4 relay panel assembly. (4) Does continuity exist between 3P-N008: pin 8 and 52P-N118A pin 54? pin 4 and 52P-N118A pin 23?	q q	r r
p. Replace FSR (A1-F18AC-240-300, WP026 00) and do step ai	-	-

**Table 1. AMAD Ground Maintenance Mode Shut Down Without Operator Action
(Continued)**

Procedure	No	Yes
q. Isolate and repair defective aircraft wiring (A1-F18A()-WDM-000) and do step ai.....	-	-
r. Repair no. 4 relay panel assembly (A1-F18AC-420-300, WP037 00) and do step ai.....	-	-
s. Replace L or R ATSCV (A1-F18AC-240-300, WP025 00) and do step ai.....	-	-
t. Do the substeps below:		
(1) On ELEC power control panel assembly, set BATT switch to OFF.		
(2) Remove door 32R (A1-F18AC-LMM-010).		
(3) Disconnect 52P-N118A from no. 4 relay panel assembly.		
(4) Does continuity exist between 52P-N118A:		
For left AMAD		
pin 18 and 3P-P006 pin 1?	q	u
For right AMAD		
pin 56 and 3P-R007 pin 1?	q	u
u. Do the substeps below:		
(1) Apply battery power (A1-F18AC-LMM-000).		
(2) Does 24vdc exist at 52P-N118A pin 26?	v	x
v. Do the substeps below:		
(1) On ELEC power control panel assembly, set BATT switch to OFF.		
(2) Open door 10L (A1-F18AC-LMM-010).		
(3) Disconnect 52P-C159G from no. 8 circuit breaker/relay panel assembly.		
(4) Apply battery power (A1-F18AC-LMM-000).		
(5) Does 24vdc exist at 52J-C159G pin 88?	w	q
w. Repair no. 8 circuit breaker/relay panel assembly (A1-F18AC-420-300, WP030 00) and do step ai.....	-	-

**Table 1. AMAD Ground Maintenance Mode Shut Down Without Operator Action
(Continued)**

Procedure	No	Yes
x. If L AMAD shut down, go to step ad, if R AMAD, do the substeps below:		
(1) Apply battery power (A1-F18AC-LMM-000).		
(2) On APU control panel, set ENG CRANK switch to R.		
(3) Does 24vdc exist at 52P-N118A pin 41?.....	y	r
y. Do the substeps below:		
(1) On ELEC power control panel assembly, set BATT switch to OFF.		
(2) Remove APU control panel (A1-F18AC-240-300, WP018 00).		
(3) Does continuity exist between 52P-H079 pin 21 and 52P-N118A pin 41?	aa	z
z. Repair APU control panel (A1-F18AC-240-300, WP018 00) and do step ai.....	-	-
aa. Do the substeps below:		
(1) Remove door 53R (A1-F18AC-LMM-010).		
(2) Disconnect 52P-R120 from AMAD.		
(3) Does continuity exist between 52P-H079 pin 21 and 52P-R120 pin 24?	q	ab
ab. Does continuity exist between 52P-R120 pin 21 and 52P-N118A pin 41?	q	ac
ac. Replace right AMAD electrical harness and couple/decouple switches (A1-F18AC-240-300, WP024 00) and do step ai.....	-	-
ad. Do the substeps below:		
(1) Connect 52P-C159G to no. 8 circuit breaker/relay panel assembly.		
(2) Apply battery power (A1-F18AC-LMM-000).		
(3) On APU control panel, set ENG CRANK switch to L.		
(4) Does 24vdc exist at 52P-N118A pin 53?.....	ae	r
ae. Do the substeps below:		
(1) On ELEC power control panel assembly, set BATT switch to OFF.		
(2) Remove APU control panel (A1-F18AC-240-300, WP018 00).		

**Table 1. AMAD Ground Maintenance Mode Shut Down Without Operator Action
(Continued)**

Procedure	No	Yes
(3) Does continuity exist between 52P-H079 pin 22 and 52P-N118A pin 53?	af	z
af. Do the substeps below:		
(1) Remove door 53L (A1-F18AC-LMM-010).		
(2) Disconnect 52P-P119 from AMAD.		
(3) Does continuity exist between 52P-H079 pin 22 and 52P-P119 pin 24?	q	ag
ag. Does continuity exist between 52P-P119 pin 21 and 52P-N118A pin 53?	q	ah
ah. Replace left AMAD electrical harness and couple/decouple switches (A1-F18AC-240-300, WP024 00) and do step ai	-	-
ai. If disconnected, removed, or opened during this procedure, make sure items listed below are connected, installed, or closed: (QA)		
(1) L/R ATS		
(2) L/R ATSCV		
(3) APU Control Panel		
(4) Frequency Sensing Relay		
(5) L/R AMAD Electrical Harness and Couple/Decouple Switches		
(6) No. 4 Relay Panel Assembly		
(7) No. 8 Circuit Breaker/Relay Panel Assembly		
(8) Door 53L/R		
(9) Door 32L/R		
(10) Door 18		
(11) Door 94		
(12) Door 10L		
(13) Door 96		
(14) 3P-P006		
(15) 3P-R007		
(16) 52P-E010A		

**Table 1. AMAD Ground Maintenance Mode Shut Down Without Operator Action
(Continued)**

Procedure	No	Yes
(17) 52P-P119		
(18) 52P-R120		
(19) 52P-H079		
(20) 52P-N118A		
(21) 3P-N008		
(22) 52P-C159G	-	-

ORGANIZATIONAL MAINTENANCE

FAULT ISOLATION MANUAL

TROUBLESHOOTING PROCEDURE

This WP supersedes WP140 00, dated 15 December 1987.

Reference Material

Line Maintenance Access Doors.....	A1-F18AC-LMM-010
Line Maintenance Procedures.....	A1-F18AC-LMM-000
Secondary Power System	A1-F18AC-240-500
Component Locator.....	WP003 00

Alphabetical Index

Subject	Page No.
Table 1.....	2

Record of Applicable Technical Directives

Type/ Number	Date	Title and ECP No.	Date Incorp.	Remarks
F18 AFC 27	-	Leading Edge Flap/Control Stick Changes (ECP MDA-F18-00044)	15 Jan 85	-

Table 1. APU No Start With No Maintenance Codes

Support Equipment Required

NOTE

Alternate item type designations or part numbers are listed in parentheses.

Part Number or

Type Designation

260-6XLP

(AN/USM-311)

Nomenclature

Multimeter

Materials Required

None

NOTE

APU Start System Schematic (A1-F18AC-240-500, WP004 00) may be used as an aid when doing this procedure.

For component locator, refer to A1-F18AC-240-500, WP003 00.

Malfunction is caused by one of the items below:

Aircraft Wiring

APU Control Panel

APU Cool Down Timer Relay (2K-N005)

APU Emergency Shutdown Relay (2K-N008)

Electronic Control Unit (ECU)

No. 4 Relay Panel Assembly

No. 8 Circuit Breaker/Relay Panel Assembly

Table 1. APU No Start With No Maintenance Codes (Continued)


Procedure	No	Yes
<div style="text-align: center;">  <p>CAUTION</p> </div> <p>To prevent damage to low level devices (switches/relay contacts), do not test for continuity with multimeter on the RX1 scale. Pin to pin tests that do not go through switches/relay contact may use the RX1 scale.</p> <p>To prevent damage to battery bus contactors and/or batteries, be sure BATT switch is set to OFF and BATT SW caution light is off when procedure is completed.</p> <p>To prevent damage to aircraft wiring or equipment, make sure multimeter leads/jumper wires are installed on correct pins. When electrical power is off, 24vdc battery voltage exists on some pins of connectors listed below:</p> <p style="margin-left: 40px;">52P-N118A 52P-C159E</p> <p style="text-align: center;">NOTE</p> <p>The question used in logic tree "Does continuity exist" means to test for the items listed below:</p> <ol style="list-style-type: none"> 1. Pin to pin test per procedural step. 2. Shorts to ground. 3. Shorts between surrounding pins on connectors. 4. Shorts between shield and conductors. 5. Shield continuity. <p>Be sure that no APU maintenance codes exist on nose wheelwell digital display indicator.</p>		
a. Do the substeps below:		
(1) Apply battery power (A1-F18AC-LMM-000).		
(2) On APU control panel, set the APU control switch to ON.		
(3) Does the engine instrument floodlight on the left main instrument panel come on?.....	b	g
b. Do the substeps below:		
(1) On ELEC power control panel assembly, set the BATT switch to OFF.		
(2) Remove APU control panel (A1-F18AC-240-300, WP018 00).		
(3) Apply battery power (A1-F18AC-LMM-000).		

Table 1. APU No Start With No Maintenance Codes (Continued)

Procedure	No	Yes
(4) Does 24vdc exist at 52P-H079 pin 15?	d	c
c. Repair APU control panel (A1-F18AC-240-300, WP018 00) and do step r	-	-
d. Do the substeps below:		
(1) On ELEC power control panel assembly, set BATT switch to OFF.		
(2) Open door 10L (A1-F18AC-LMM-010).		
(3) Disconnect 52P-C159E from no. 8 circuit breaker/relay panel assembly.		
(4) Does continuity exist between 52P-C159E pin Q and 52P-H079 pin 15?	e	f
e. Isolate and repair defective aircraft wiring (A1-F18AC()-WDM-000) and do step r	-	-
f. Repair no. 8 circuit breaker/relay panel assembly (A1-F18AC-420-300, WP030 00) and do step r	-	-
g. Do substeps below:		
(1) On ELEC power control panel assembly, set BATT switch to OFF.		
(2) On 161353 THRU 161519 BEFORE F18 AFC 27, remove door 32L (A1-F18AC-LMM-010).		
(3) On 161520 AND UP; ALSO 161353 THRU 161519 AFTER F18 AFC 27, remove door 94 (A1-F18AC-LMM-010).		
(4) Disconnect 2P-M010A or 2P-N010A from ECU.		
(5) Apply battery power (A1-F18AC-LMM-000).		
(6) On APU control panel, set APU control switch to ON.		
(7) Does 24vdc exist at 2P-M010A or 2P-N010A, pin 4?	i	h
h. On ELEC power control panel assembly, set BATT switch to OFF. Replace electronic control unit (A1-F18AC-240-300, WP019 00) and do step r	-	-
i. Do the substeps below:		
(1) On ELEC power control panel assembly, set BATT switch to OFF.		
(2) Remove APU cool down timer relay (2K-N005) from no. 4 relay panel assembly (A1-F18AC-420-300, WP037 00).		
(3) Apply battery power (A1-F18AC-LMM-000).		
(4) On APU control panel, set APU control switch to ON.		

Table 1. APU No Start With No Maintenance Codes (Continued)

Procedure	No	Yes
(5) Does 24vdc exist at the B1 and X1 sockets of 2K-N005 in the relay panel?	m	j
j. On ELEC power control panel assembly, set BATT switch to OFF. Does continuity exist between the B2 socket of 2K-N005 and 52J-N118B pin 37?	k	l
k. Repair no. 4 relay panel assembly (A1-F18AC-420-300, WP037 00) and do step r.....	-	-
l. Replace APU cool down timer relay (2K-N005) (A1-F18AC-420-300, WP037 00) and do step r.....	-	-
m. Do the substeps below:		
(1) On ELEC power control panel assembly, set BATT switch to OFF.		
(2) Remove APU emergency shutdown relay (2K-N008) from no. 4 relay panel assembly (A1-F18AC-420-300, WP037 00).		
(3) Does continuity exist between socket A3 of 2K-N008 and sockets B1 and X1 of 2K-N005 in the relay panel?	k	n
n. Test for continuity between pins A2 and A3 of relay 2K-N008. Does continuity exist?.....	o	p
o. Replace APU emergency shutdown relay (2K-N008) (A1-F18AC-420-300, WP037 00) and do step r.....	-	-
p. Do the substeps below:		
(1) Disconnect 52P-N118A from no. 4 relay panel assembly.		
(2) Apply battery power (A1-F18AC-LMM-000).		
(3) On APU control panel, set APU control switch to ON.		
(4) Does 24vdc exist at 52P-N118A pin 66?.....	q	k
q. On ELEC power control panel assembly, set BATT switch to OFF. Repair defective aircraft wiring between 52P-N118A pin 66 and 52P-H079 pin 13 (A1-F18A()-WDM-000) and do step r.....	-	-
r. If disconnected, removed, or opened during this procedure, make sure items listed below are connected, installed, or closed: (QA)		
(1) Door 10L		
(2) Door 32L		
(3) Door 32R		
(4) Door 94		

Table 1. APU No Start With No Maintenance Codes (Continued)

Procedure	No	Yes
(5) 52P-H079		
(6) 52P-C159E		
(7) 52P-N118A		
(8) 52P-N118B		
(9) 2P-M010A		
(10) 2P-N010A		
(11) APU Control Panel		
(12) ECU		
(13) APU Emergency Shutdown Relay (2K-N008)		
(14) APU Cool Down Timer Relay (2K-N005)		
(15) No. 4 Relay Panel Assembly		
(16) No. 8 Circuit Breaker/Relay Panel Assembly.....	-	-

ORGANIZATIONAL MAINTENANCE

FAULT ISOLATION MANUAL

TROUBLESHOOTING PROCEDURE

Reference Material

Line Maintenance Access Doors.....	A1-F18AC-LMM-010
Line Maintenance Procedures.....	A1-F18AC-LMM-000
Secondary Power System.....	A1-F18AC-240-500
Component Locator.....	WP003 00

Alphabetical Index

Subject	Page No.
Table 1.....	2

Record of Applicable Technical Directives

Type/ Number	Date	Title and ECP No.	Date Incorp.	Remarks
F18 AFC 27	-	Leading Edge Flap/Control Stick Changes (ECP MDA-F18-00044)	15 Jan 85	-

Table 1. APU Control Switch Will Not Hold in 'ON' Position**Support Equipment Required****NOTE**

Alternate item type designations or part numbers are listed in parentheses.

Part Number or

Type Designation

260-6XLP

(AN/USM-311)

Nomenclature

Multimeter

Materials Required

None

NOTE

APU Start System Schematic (A1-F18AC-240-500, WP004 00) may be used as an aid when doing this procedure.

For component locator, refer to A1-F18AC-240-500, WP003 00.

Malfunction is caused by one of the items below:

APU Control Panel

Aircraft Wiring

Electronic Control Unit (ECU)

Utility Battery Low

Procedure**No****Yes****CAUTION**

To prevent damage to low level devices (switches/relay contacts), do not test for continuity with multimeter on the RX1 scale. Pin to pin tests that do not go through switches/relay contacts may use the RX1 scale.

To prevent damage to battery bus contactors and/or batteries, be sure BATT switch is set to OFF and BATT SW caution light is off when procedure is completed.

Table 1. APU Control Switch Will Not Hold in 'ON' Position (Continued)

Procedure	No	Yes
<p style="text-align: center;">NOTE</p> <p>The question used in logic tree "Does continuity exist" means to test for the items listed below:</p> <ol style="list-style-type: none"> 1. Pin to pin test per procedural step. 2. Shorts to ground. 3. Shorts between surrounding pins on connectors. 4. Shorts between shield and conductors. 5. Shield continuity. 		
a. Apply battery power (A1-F18AC-LMM-000). Does the BATT light on the caution light indicator panel stay on?	b	c
b. Recharge or replace utility battery (A1-F18AC-420-300, WP019 00)	-	-
c. On APU control panel, set and hold APU control switch ON. Does APU start?	d	e
d. Do troubleshooting procedure (A1-F18AC-FIM-000, WP140 00)	-	-
e. Do substeps below:		
(1) Shut down APU (A1-F18AC-LMM-000).		
(2) On 161353 THRU 161519 BEFORE F18 AFC 27, remove door 32L (A1-F18AC-LMM-010).		
(3) On 161520 AND UP; ALSO 161353 THRU 161519 AFTER F18 AFC 27, remove door 94 (A1-F18AC-LMM-010).		
(4) Disconnect 2P-M010A or 2P-N010A from ECU.		
(5) Jumper between pins 4 and 7 of 2P-M010A or 2P-N010A.		
(6) Set APU control switch to ON. Does the switch remain in the ON position?	g	f
f. Set APU control switch and BATT switch to OFF. Replace ECU (A1-F18AC-240-300, WP019 00) and do step j	-	-
g. Do substeps below:		
(1) Set BATT switch to OFF.		
(2) Remove APU control panel (A1-F18AC-240-300, WP018 00).		
(3) Remove jumper from 2P-M010A or 2P-N010A.		

Table 1. APU Control Switch Will Not Hold in 'ON' Position (Continued)

Procedure	No	Yes
(4) Does continuity exist between 2P-M010A or 2P-N010A pin 7 and 52P-H079 pin 11? ..	h	i
h. Isolate and repair defective aircraft wiring (A1-F18A()-WDM-000) and do step j	-	-
i. Repair APU control panel (A1-F18AC-240-300, WP018 00) and do step j	-	-
j. If disconnected, removed, or opened during this procedure, make sure the items listed below are connected, installed, or closed: (QA)		
(1) Door 32L		
(2) 2P-M010A or 2P-N010A		
(3) 52P-H079		
(4) APU Control Panel		
(5) Door 94	-	-

ORGANIZATIONAL MAINTENANCE

FAULT ISOLATION MANUAL

TROUBLESHOOTING PROCEDURE

Reference Material

Line Maintenance Access Doors.....	A1-F18AC-LMM-010
Secondary Power System	A1-F18AC-240-500
Component Locator.....	WP003 00

Alphabetical Index

Subject	Page No.
Table 1.....	1

Record of Applicable Technical Directives

None

Table 1. No APU Auto Shutdown After Second Engine Start

Support Equipment Required

NOTE

Alternate item type designations or part numbers are listed in parentheses.

Part Number or Type Designation	Nomenclature
260-6XLP (AN/USM-311)	Multimeter

Table 1. No APU Auto Shutdown After Second Engine Start (Continued)


<p style="text-align: center;">Materials Required</p> <p style="text-align: center;">None</p> <p style="text-align: center;">NOTE</p> <p>Engine Start and Ground Maintenance Mode Schematic (A1-F18AC-240-500, WP005 00) and APU Start System Schematic (A1-F18AC-240-500, WP004 00) may be used when doing this procedure.</p> <p>For component locator, refer to A1-F18AC-240-500, WP003 00.</p> <p>Malfunction is caused by one of the items below:</p> <p>Aircraft Wiring APU COOL DOWN TIMER RELAY L or R GEN ON RELAY L or R Power Contactor No. 4 Relay Panel Assembly Wiring</p>		
Procedure	No	Yes
<p style="text-align: center;"></p> <p>To prevent damage to low level devices (switches/relay contacts), do not test for continuity with multimeter on the RX1 scale. Pin to pin tests that do not go through switches/relay contacts may use the RX1 scale.</p> <p>To prevent damage to aircraft wiring or equipment, make sure multimeter leads/jumper wires are installed on correct pins. When electrical power is off, 24VDC battery voltage exists on some pins of connector(s) listed below:</p> <p style="text-align: center;">52P-N118A</p> <p style="text-align: center;">NOTE</p> <p>The question used in logic tree “Does continuity exist” means to test for the items listed below:</p> <ol style="list-style-type: none"> 1. Pin to pin test per procedural step. 2. Shorts to ground. 3. Shorts between surrounding pins on connectors. 4. Shorts between shield and conductors. 5. Shield continuity. 		

Table 1. No APU Auto Shutdown After Second Engine Start (Continued)

Procedure	No	Yes
a. Did L or R GEN light in the caution light indicator panel stay on?.....	d	b
b. Does maintenance code 872 or 873 exist on the nose wheelwell digital display indicator?	d	c
c. Do maintenance action required for code 872 or 873 (A1-F18AC-FRM-000, WP003 00 or A1-F18AE-FRM-000, WP003 00)	-	-
d. Do the substeps below:		
(1) Open door 10L (A1-F18AC-LMM-010).		
(2) Disconnect 1P-C007 from left power contactor and jumper between pin 13 and 12 of 1P-C007.		
(3) Remove door 32R (A1-F18AC-LMM-010).		
(4) Remove L GEN ON RLY (3K-N017) from no. 4 relay panel assembly.		
(5) Does ground exist at the X2 socket of 3K-N017 in the no. 4 relay panel assembly?.....	e	h
e. Disconnect 52P-N118A from no. 4 relay panel assembly. Does ground exist at 52P-N118A pin 8?	f	g
f. Isolate and repair defective aircraft wiring (A1-F18A()-WDM-000) and do step k.....	-	-
g. Isolate and repair defective wiring in the no. 4 relay panel assembly (A1-F18AC-420-300, WP037 00) and do step k.....	-	-
h. Do the substeps below:		
(1) Open door 10R (A1-F18AC-LMM-010).		
(2) Disconnect 1P-D008 from right power contactor and jumper between pins 13 and 12 of 1P-D008.		
(3) Inside door 32R, remove R GEN ON RLY (3K-N018) from no. 4 relay panel assembly.		
(4) Does ground exist at the X2 socket of 3K-N018 in the no. 4 relay panel assembly?.....	i	j
i. Disconnect 52P-N118A from no. 4 relay panel assembly. Does ground exist at 52P-N118A pin 59?	f	g

Table 1. No APU Auto Shutdown After Second Engine Start (Continued)

Procedure	No	Yes
j. Isolate and repair no. 4 relay panel assembly (A1-F18AC-420-300, WP037 00) and do step k. Malfunction is caused by one of the below: relay 3K-N017 relay 3K-N018 relay 2K-N005 relay 22K-N028 relay panel wiring	-	-
k. If disconnected, removed, or opened during this procedure, make sure items listed below are connected, installed, or closed: (QA) (1) Door 10L (2) Door 10R (3) Door 32R (4) 1P-C007 (5) 1P-D008 (6) 52P-N118A (7) Relay 3K-N017 (8) Relay 3K-N018 (9) No. 4 Relay Panel Assembly	-	-

ORGANIZATIONAL MAINTENANCE

FAULT ISOLATION MANUAL

TROUBLESHOOTING PROCEDURE

Reference Material

Secondary Power System	A1-F18AC-240-500
Component Locator	WP003 00

Alphabetical Index

Subject	Page No.
Table 1	1

Record of Applicable Technical Directives

None

Table 1. Sparks Out The ATS Exhaust Duct

Support Equipment Required	
Part Number or Type Designation	Nomenclature
64A90F1	Compressor Power Unit
Materials Required	
None	
NOTE	
For component locator, refer to A1-F18AC-240-500, WP003 00.	

Table 1. Sparks Out The ATS Exhaust Duct (Continued)


Malfunction is caused by one of the items below:		
APU L or R Air Turbine Starter (ATS)		
Procedure	No	Yes
<div style="text-align: center;">  </div> <p>To prevent damage to battery bus contactors and/or batteries, be sure BATT switch is set to OFF and BATT SW caution light is off when procedure is completed.</p>		
a. At shutdown, were rubbing or scraping sounds heard from ATS as it was spooling down?	b	d
b. Do substeps below:		
(1) Remove dust cover from air connection in right MLG wheelwell.		
(2) Connect air supply hose from compressor power unit to connection in wheelwell.		
(3) Start compressor power unit and set output air switch to 5:1.		
(4) Apply battery power (A1-F18AC-LMM-000).		
(5) On APU control panel, set ENG CRANK switch to position required to operate ATS that was sparking. Observe ATS exhaust duct.		
(6) Move ENG CRANK switch to OFF. Did sparks come from ATS exhaust duct?.....	c	d
c. Do substeps below:		
(1) Shut down compressor power unit.		
(2) Disconnect air supply hose from connection in wheelwell.		
(3) Install dust cover on air connection in wheelwell.		
(4) Remove APU (A1-F18AC-240-300, WP003 00).		
(5) Clean out APU air ducts.		
(6) Remove and inspect right and left ATSCV's for contamination (A1-F18AC-240-300, WP025 00). Replace ATSCV's as required.		
(7) Remove and inspect air isolation valve for contamination (A1-F18AC-240-300, WP012 00). Replace as required.		

Table 1. Sparks Out The ATS Exhaust Duct (Continued)

Procedure	No	Yes
(8) Install new APU (A1-F18AC-240-300, WP003 00).....	-	-
d. Replace ATS (A1-F18AC-240-300, WP025 00) and do step e.....	-	-
e. If disconnected, removed, or opened during this procedure, make sure items listed below are connected, installed, or closed: (QA)		
(1) Disconnect Air Hose		
(2) Dust Cover on Air Connection.....	-	-

ORGANIZATIONAL MAINTENANCE

FAULT ISOLATION MANUAL

TROUBLESHOOTING PROCEDURE

Reference Material

Line Maintenance Access Doors.....	A1-F18AC-LMM-010
Line Maintenance Procedures.....	A1-F18AC-LMM-000

Alphabetical Index

Subject	Page No.
Table 1.....	1

Record of Applicable Technical Directives

None

Table 1. Mux Voice Alert(s) Not Present

Support Equipment Required

NOTE

Alternate item type designations or part numbers are listed in parentheses.

**Part Number or
Type Designation**
260-6XLP
(AN/USM-311)

Nomenclature
Multimeter

Materials Required
None

Table 1. Mux Voice Alert(s) Not Present (Continued)


<p style="text-align: center;">NOTE</p> <p>Intercommunication and Audio System Functional Schematic (A1-F18AC-600-500, WP013 00) may be used as an aid when doing this procedure.</p> <p>For component locator, refer to A1-F18AC-600-500, WP012 00.</p> <p>Malfunction is caused by one of the items below:</p> <p>Aircraft Wiring Control-Converter C-10382/A Intercommunication Amplifier-Control AM-6979/A or AM-7360/A</p>		
Procedure	No	Yes
<p style="text-align: center;"></p> <p>To prevent damage to low level devices (switches/relay contacts), do not test for continuity with multimeter on the RX1 scale. Pin to pin tests that do not go through switches/relay contacts may use the RX1 scale.</p> <p style="text-align: center;">NOTE</p> <p>The question used in logic tree "Does continuity exist" means to test for the items listed below:</p> <ol style="list-style-type: none"> 1. Pin to pin test per procedural step. 2. Shorts to ground. 3. Shorts between surrounding pins on connectors. 4. Shorts between shield and conductors. 5. Shield continuity. <p>a. Do the substeps below:</p> <ol style="list-style-type: none"> (1) Remove electrical power (A1-F18AC-LMM-000). (2) Open door 13R (A1-F18AC-LMM-010). (3) Disconnect 82P-F001A from Control-Converter C-10382/A. (4) Remove Intercommunication Amplifier-Control AM-6979/A or AM-7360/A (A1-F18AC-600-300, WP012 00). 		

Table 1. Mux Voice Alert(s) Not Present (Continued)

Procedure	No	Yes
(5) Does continuity exist from: 82P-F001A pin 7 to 76P-H009A pin 19 82P-F001A pin 8 to 76P-H009A pin 25 82P-F001A pin 13 to 76P-H009A pin 9 82P-F001A pin 14 to 76P-H009A pin 8 82P-F001A pin 15 to 76P-H009A pin ??	b	c
b. Isolate defective aircraft wiring (A1-F18A()-WDM-000). Do step d	-	-
c. Malfunction has been isolated to Control-Converter C-10382/A (A1-F18AC-741-300, WP005 00 or A1-F18AE-741-300, WP005 00) or Intercommunication Amplifier-Control AM-6979/A or AM-7360/A (A1-F18AC-600-300, WP012 00). Do step d.....	-	-
d. If disconnected, removed, or opened during this procedure, make sure the items listed below are connected, installed, or closed: (1) 82P-F001A (2) Door 13R (3) Intercommunication Amplifier-Control AM-6979/A or AM-7360/A	-	-

ORGANIZATIONAL MAINTENANCE

FAULT ISOLATION MANUAL

TROUBLESHOOTING PROCEDURE

Title	WP Number
Troubleshooting Procedure - F/A-18A/B.....	161 01
Troubleshooting Procedure - F/A-18C/D.....	161 02

ORGANIZATIONAL MAINTENANCE

FAULT ISOLATION MANUAL

TROUBLESHOOTING PROCEDURE

EFFECTIVITY: F/A-18A/B

Reference Material

Line Maintenance Access Doors.....	A1-F18AC-LMM-010
Line Maintenance Procedures.....	A1-F18AC-LMM-000
Communication, TACAN, ADF, Electronic Altimeter, and IFF Systems	A1-F18AC-600-500
Component Locator.....	WP012 00

Alphabetical Index

Subject	Page No.
Table 1.....	1


Record of Applicable Technical Directives

None

Table 1. MASTER CAUTION Light But No Master Caution Tone In Headset

Support Equipment Required	
NOTE	
Alternate item type designations or part numbers are listed in parentheses.	
Part Number or Type Designation	Nomenclature
260-6XLP (AN/USM-311)	Multimeter

Table 1. MASTER CAUTION Light But No Master Caution Tone In Headset
(Continued)

<p>Materials Required</p> <p>None</p> <p>NOTE</p> <p>Intercommunication and Audio System Functional Schematic (A1-F18AC-600-500, WP013 00) may be used as an aid when doing this procedure.</p> <p>For component locator, refer to A1-F18AC-600-500, WP012 00.</p> <p>Malfunction is caused by one of the items below:</p> <p>Aircraft Wiring Intercommunication Amplifier-Control AM-6979/A or AM-7360/A Signal Data Recorder RO-508/ASM-612</p>		
Procedure	No	Yes
<p></p> <p>To prevent damage to low level devices (switches/relay contacts), do not test for continuity with multimeter on the RX1 scale. Pin to pin tests that do not go through switches/relay contacts may use the RX1 scale.</p> <p>NOTE</p> <p>The question used in logic tree "Does continuity exist" means to test for the items listed below:</p> <ol style="list-style-type: none">1. Pin to pin test per procedural step.2. Shorts to ground.3. Shorts between surrounding pins on connectors.4. Shorts between shield and conductors.5. Shield continuity. <p>a. Do substeps below:</p> <div><div><p>(1) Make sure electrical power is off (A1-F18AC-LMM-000).</p><p>(2) Reset nose wheelwell digital display indicator (A1-F18AC-LMM-000).</p><p>(3) Open door 14R (A1-F18AC-LMM-010).</p><p>(4) Disconnect 85P-F001A from Signal Data Recorder RO-508/ASM-612.</p></div><div></div><div></div></div>		

**Table 1. MASTER CAUTION Light But No Master Caution Tone In Headset
(Continued)**

Procedure	No	Yes
(5) Install jumper wire from 85P-F001A pin 98 to pin 118.		
(6) Connect intercommunication equipment (A1-F18AC-LMM-000).		
(7) Turn on electrical power (A1-F18AC-LMM-000).		
(8) On GND PWR control panel assembly, set and hold 4 switch to A ON for 3 seconds.		
(9) Is master caution tone in headset?.....	b	c
b. Do substeps below:		
(1) Turn off electrical power (A1-F18AC-LMM-000).		
(2) Remove jumper wire from 85P-F001A.		
(3) Remove Intercommunication Amplifier-Control AM-6979/A or AM-7360/A (A1-F18AC-600-300, WP012 00).		
(4) Does continuity exist from 85P-F001A pin 98 to 76P-H009B pin 41?	e	d
c. Replace Signal Data Recorder RO-508/ASM-612 (A1-F18AC-580-300, WP004 00) and do step f.....	-	-
d. Replace Intercommunication Amplifier-Control AM-6979/A or AM-7360/A (A1-F18AC-600-300, WP012 00) and do step f.....	-	-
e. Isolate and repair defective aircraft wiring (A1-F18A()-WDM-000) from 85P-F001A pin 98 to 76P-H009B pin 41 and do step f.....	-	-
f. If disconnected, removed, or opened during this procedure, make sure items listed below are connected, installed, or closed:		
(1) Remove jumper wire		
(2) Disconnect intercommunication equipment		
(3) Intercommunication Amplifier-Control AM-6979/A or AM-7360/A (A1-F18AC-600-300, WP012 00)		
(4) 85P-F001A		
(5) Door 14R.....	-	-

ORGANIZATIONAL MAINTENANCE

FAULT ISOLATION MANUAL

TROUBLESHOOTING PROCEDURE

EFFECTIVITY: F/A-18C/D

Reference Material

Line Maintenance Access Doors.....	A1-F18AC-LMM-010
Line Maintenance Procedures.....	A1-F18AC-LMM-000
Communication, TACAN, ADF, Electronic Altimeter, and IFF Systems	A1-F18AC-600-500
Component Locator.....	WP012 00

Alphabetical Index

Subject	Page No.
Table 1.....	1


Record of Applicable Technical Directives

None

Table 1. MASTER CAUTION Light But No Master Caution Tone In Headset

Support Equipment Required	
NOTE	
Alternate item type designations or part numbers are listed in parentheses.	
Part Number or Type Designation	Nomenclature
260-6XLP (AN/USM-311)	Multimeter

**Table 1. MASTER CAUTION Light But No Master Caution Tone In Headset
(Continued)**

<p align="center">Materials Required</p> <p align="center">None</p> <p align="center">NOTE</p> <p>Intercommunication and Audio System Functional Schematic (A1-F18AC-600-500, WP013 00) may be used as an aid when doing this procedure.</p> <p>For component locator, refer to A1-F18AC-600-500, WP012 00.</p> <p>Malfunction is caused by one of the items below:</p> <p>Aircraft Wiring Intercommunication Amplifier-Control AM-7360/A Signal Data Computer CP-1726/ASQ-194</p>		
Procedure	No	Yes
<p align="center">  </p> <p>To prevent damage to low level devices (switches/relay contacts), do not test for continuity with multimeter on the RX1 scale. Pin to pin tests that do not go through switches/relay contacts may use the RX1 scale.</p> <p align="center">NOTE</p> <p>The question used in logic tree "Does continuity exist" means to test for the items listed below:</p> <ol style="list-style-type: none"> 1. Pin to pin test per procedural step. 2. Shorts to ground. 3. Shorts between surrounding pins on connectors. 4. Shorts between shield and conductors. 5. Shield continuity. <p>a. Do substeps below:</p> <ol style="list-style-type: none"> (1) Make sure electrical power is off (A1-F18AC-LMM-000). (2) Reset nose wheelwell digital display indicator (A1-F18AC-LMM-000). (3) Open door 14R (A1-F18AC-LMM-010). (4) Disconnect 85P-F042C from Signal Data Computer CP-1726/ASQ-194. 		

**Table 1. MASTER CAUTION Light But No Master Caution Tone In Headset
(Continued)**

Procedure	No	Yes
(5) Install jumper wire from 85P-F042C pin 33 to pin 116.		
(6) Connect intercommunication equipment (A1-F18AC-LMM-000).		
(7) Turn on electrical power (A1-F18AC-LMM-000).		
(8) On GND PWR control panel assembly, set and hold 4 switch to A ON for three seconds.		
(9) Is master caution tone in headset?.....	b	c
b. Do substeps below:		
(1) Turn off electrical power (A1-F18AC-LMM-000).		
(2) Remove jumper wire from 85P-F042C.		
(3) Remove Intercommunication Amplifier-Control AM-7360/A (A1-F18AC-600-300, WP012 00).		
(4) Does continuity exist from 85P-F042C pin 33 to 76P-H009B pin 41?	e	d
c. Replace Signal Data Computer CP-1726/ASQ-194 (A1-F18AE-580-300, WP003 00) and do step f.....	-	-
d. Replace Intercommunication Amplifier-Control AM-7360/A (A1-F18AC-600-300, WP012 00) and do step f.....	-	-
e. Isolate and repair defective aircraft wiring (A1-F18A()-WDM-000) from 85P-F042C pin 33 to 76P-H009B pin 41 and do step f.....	-	-
f. If disconnected, removed, or opened during this procedure, make sure items listed below are connected, installed, or closed:		
(1) Remove jumper wire		
(2) Disconnect intercommunication equipment		
(3) Intercommunication Amplifier-Control AM-7360/A (A1-F18AC-600-300, WP012 00)		
(4) 85P-F042C		
(5) Door 14R.....	-	-

ORGANIZATIONAL MAINTENANCE

FAULT ISOLATION MANUAL

TROUBLESHOOTING PROCEDURE

Reference Material

Line Maintenance Access Doors.....	A1-F18AC-LMM-010
Environmental Control Systems.....	A1-F18AC-410-500
Radar Liquid Cooling System.....	WP014 00

Alphabetical Index

Subject	Page No.
Table 1.....	1

Record of Applicable Technical Directives

None

Table 1. Reservoir Level Indicator FULL (Black) and Code 985

Support Equipment Required

NOTE

Alternate item type designations or part numbers are listed in parentheses.

Part Number or Type Designation	Nomenclature
260-6XLP (AN/USM-311)	Multimeter

Table 1. Reservoir Level Indicator FULL (Black) and Code 985 (Continued)


<p align="center">Materials Required</p> <p align="center">None</p> <p align="center">NOTE</p> <p>Radar Liquid Cooling System Schematic (A1-F18AC-410-500, WP014 00) may be used as an aid when doing this procedure.</p> <p>For component locator, refer to A1-F18AC-410-500, WP014 00.</p> <p>Malfunction is caused by one of the items below:</p> <p>Aircraft Wiring No. 7 Circuit Breaker/Relay Panel Assembly Radar Liquid Cooling Centrifugal Pump Unit RDR LCS SVCE Panel Assembly Signal Data Converter CV-3493/ASM-612 Signal Data Computer CP-1726/ASQ-194</p>		
Procedure	No	Yes
<p align="center"></p> <p>To prevent damage to low level devices (switches/relay contacts), do not test for continuity with multimeter on the RX1 scale. Pin to pin tests that do not go through switches/relay contacts may use the RX1 scale.</p> <p align="center">NOTE</p> <p>The question used in logic tree "Does continuity exist" means to test for the items listed below:</p> <ol style="list-style-type: none"> 1. Pin to pin test per procedural step. 2. Shorts to ground. 3. Shorts between surrounding pins on connectors. 4. Shorts between shield and conductors. 5. Shield continuity. <p>a. Do substeps below:</p> <p>(1) Remove door 22 (A1-F18AC-LMM-010).</p> <p>(2) On radar liquid cooling centrifugal pump unit (pump), is indicator in OVERFILL condition on mechanical indicator?.....</p>		
	c	b

Table 1. Reservoir Level Indicator FULL (Black) and Code 985 (Continued)

Procedure	No	Yes
b. Do substeps below:		
(1) Open door 6 (A1-F18AC-LMM-010).		
(2) Apply external electrical power (A1-F18AC-LMM-000).		
(3) On RDR LCS SVCE panel, set PUMP switch to ON.		
(4) Position a 2 quart container under aircraft BLEED PORT (bottom of left LEX). Turn and hold BLEED VALVE until RESERVOIR LEVEL indicator changes from BLACK to WHITE. Release BLEED VALVE and set PUMP switch to OFF.		
(5) Turn off external electrical power (A1-F18AC-LMM-000).		
(6) Do radar liquid cooling system refilling (A1-F18AC-LMM-000) and do step s.....	-	-
c. On pump, is indicator in REFILL condition on mechanical indicator?	d	i
d. Do substeps below:		
(1) Disconnect 22P-M086 from pump.		
(2) On F/A-18A AND F/A-18B, remove door 32R (A1-F18AC-LMM-010).		
(3) On F/A-18A AND F/A-18B, disconnect 85P-N002A from signal Data Converter CV- 3493/ASM-612.		
(4) On F/A-18A AND F/A-18B, does continuity exist from:		
22P-M086 pin C to 85P-N002A pin 120		
22P-M086 pin F to aircraft ground?	e	f
(5) On F/A-18C AND F/A-18D, open door 14R (A1-F18AC-LMM-010).		
(6) On F/A-18C AND F/A-18D, disconnect 85P-F042D from Signal Data Computer CP- 1726/ASQ-194.		
(7) On F/A-18C AND F/A-18D, does continuity exist from:		
22P-M086 pin C to 85P-F042D pin 6		
22P-M086 pin F to aircraft ground?	e	f
e. Isolate defective aircraft wiring (A1-F18A()-WDM-000) and do step s.....	-	-
f. Does continuity exist from 22J-M086 pin C to pin F?	h	g

Table 1. Reservoir Level Indicator FULL (Black) and Code 985 (Continued)

Procedure	No	Yes
g. Do substeps below:		
(1) On F/A-18A AND F/A-18B, replace Signal Data Converter CV-3493/ASM-612 (A1-F18AC-580-300, WP003 00) and do step s.....	-	-
(2) On F/A-18C AND F/A-18D, replace Signal Data Computer CP-1726/ASQ-194 (A1-F18AE-580-300, WP003 00) and do step s.....	-	-
h. Replace radar liquid cooling centrifugal pump unit (A1-F18AC-410-300, WP119 00) and do step s.....	-	-
i. Do substeps below:		
(1) Disconnect 22P-M086 from pump.		
(2) Does continuity exist from 22J-M086 pin D to pin E?	j	h
j. Does continuity exist from 22J-M086 pin B to pin F?	h	k
k. Do substeps below:		
(1) Apply external electrical power (A1-F18AC-LMM-000).		
(2) Does 28vdc exist at 22P-M086 pin B to aircraft ground?.....	n	l
l. Does continuity exist from 22P-M086 pin F to aircraft ground?	e	m
m. Replace RDR LCS SVCE panel assembly (A1-F18AC-410-300, WP125 00) and do step s.....	-	-
n. Does 28vdc exist at 22P-M086 pin E to aircraft ground?	p	o
o. Do substeps below:		
(1) Remove electrical power (A1-F18AC-LMM-000).		
(2) Open door 6 (A1-F18AC-LMM-010).		
(3) Disconnect 22P-A090 from RDR LCS SVCE panel assembly.		
(4) Does continuity exist from 22P-M086 pin B to 22P-A090 pin 11?	e	m
p. Do substeps below:		
(1) Remove electrical power (A1-F18AC-LMM-000).		
(2) Open door 6 (A1-F18AC-LMM-010).		
(3) Disconnect 22P-A090 from RDR LCS SVCE panel assembly.		

Table 1. Reservoir Level Indicator FULL (Black) and Code 985 (Continued)

Procedure	No	Yes
(4) Does continuity exist from 22J-A090 pin 12 to pin 13?.....	m	q
q. Do substeps below:		
(1) Open door 10L (A1-F18AC-LMM-010).		
(2) Disconnect 52P-C057D from no. 7 circuit breaker/relay panel assembly.		
(3) Does continuity exist from 52P-C057D pin 42 to 22P-A090 pin 13?.....	e	r
r. Isolate between no. 7 circuit breaker/relay panel assembly wiring and circuit breaker 22CBC106 (A1-F18AC-420-300, WP027 00) and do step s.....	-	-
s. If disconnected, removed, or opened during this procedure, make sure the items listed below are connected, installed, or closed:		
(1) 22P-M086		
(2) 85P-N002A		
(3) 85P-F042D		
(4) 22P-A090		
(5) 52P-C057D		
(6) Door 6		
(7) Door 10L		
(8) Door 14R		
(9) Door 32R		
(10) Door 22	-	-

ORGANIZATIONAL MAINTENANCE

FAULT ISOLATION MANUAL

TROUBLESHOOTING PROCEDURE

EFFECTIVITY: 162394 AND UP

Reference Material

Line Maintenance Procedures.....	A1-F18AC-LMM-000
Environmental Control Systems.....	A1-F18AC-410-500
Avionics Cooling System	WP009 00

Alphabetical Index

Subject	Page No.
Table 1.....	1

Record of Applicable Technical Directives

None

Table 1. Code 836

Support Equipment Required

NOTE

Alternate item type designations or part numbers are listed in parentheses.

Part Number or Type Designation	Nomenclature
260-6XLP (AN/USM-311)	Multimeter

Table 1. Code 836 (Continued)


<p align="center">Materials Required</p> <p align="center">None</p> <p align="center">NOTE</p> <p>Cockpit Avionics Cooling System Schematic - 162394 AND UP (A1-F18AC-410-500, WP009 00) may be used as an aid when doing this procedure.</p> <p>For component locator, refer to A1-F18AC-410-500, WP009 00.</p> <p>Malfunction is caused by one of the items below:</p> <p>Aircraft Wiring Avionics Cooling Fan Filter Control Converter C-10382/A FAN TEST Control Panel Assembly Left Avionics Cooling Fan No. 2 Relay Panel Assembly No. 4 Circuit Breaker Panel Assembly No. 7 Circuit Breaker/Relay Panel Assembly</p>		
Procedure	No	Yes
<p align="center"></p> <p>To prevent damage to low level devices (switches/relay contacts), do not test for continuity with multimeter on the RX1 scale. Pin to pin tests that do not go through switches/relay contacts may use the RX1 scale.</p> <p>To prevent damage to aircraft wiring or equipment, make sure multimeter leads/jumper wires are installed on correct pins. When electrical power is off, 24vdc battery voltage exists on some pins of connectors listed below:</p> <p align="center">52P-C057E</p> <p align="center">NOTE</p> <p>The question used in logic tree "Does continuity exist" means to test for the items listed below:</p> <ol style="list-style-type: none"> 1. Pin to pin test per procedural step. 2. Shorts to ground. 3. Shorts between surrounding pins on connectors. 4. Shorts between shield and conductors. 5. Shield continuity. 		

Table 1. Code 836 (Continued)

Procedure	No	Yes
a. Do substeps below:		
(1) Reset nose wheelwell digital display indicator (A1-F18AC-LMM-000).		
(2) Apply electrical power (A1-F18AC-LMM-000).		
(3) On GND PWR control panel assembly, set and hold 2 switch to B ON for three seconds.		
(4) Does left avionics cooling fan work?	o	b
b. Observe nose wheelwell digital display indicator for code 836 (A1-F18AC-LMM-000). Is code 836 displayed?	h	c
c. Do substeps below:		
(1) Turn off electrical power (A1-F18AC-LMM-000).		
(2) Open door 13R (A1-F18AC-LMM-010).		
(3) Disconnect 82P-F001A from Control Converter C-10382/A.		
(4) Turn on electrical power (A1-F18AC-LMM-000).		
(5) Does continuity exist from 82P-F001A pin 104 to aircraft ground?	e	d
d. Replace Control Converter C-10382/A (A1-F18AC-741-300, WP005 00) and do step aa.....	-	-
e. Do substeps below:		
(1) Remove electrical power (A1-F18AC-LMM-000).		
(2) Open door 10L (A1-F18AC-LMM-010).		
(3) Disconnect 52P-C057E from no. 7 circuit breaker/relay panel assembly.		
(4) Does continuity exist from 82P-F001A pin 104 to 52P-C057E pin 50?	f	g
f. Isolate defective aircraft wiring (A1-F18A()-WDM-000) and do step aa.....	-	-
g. Isolate between no. 7 circuit breaker/relay panel assembly wiring and relay 22K-C065 (A1-F18AC-420-300, WP027 00) and do step aa.....	-	-
h. Do substeps below:		
(1) Turn off electrical power (A1-F18AC-LMM-000).		
(2) Remove left internal door CPQ (A1-F18AC-LMM-010).		

Table 1. Code 836 (Continued)


Procedure	No	Yes
(3) Disconnect 22P-H069 from left avionics cooling fan. (4) Does continuity exist from left avionics cooling fan receptacle: 22B-H069 pin 1 to pin 11 22B-H069 pin 1 to pin 12 22B-H069 pin 1 to pin 13?	i	j
i. Replace left avionics cooling fan (A1-F18AC-410-300, WP084 00) and do step aa	-	-
j. Do substeps below:		
<div style="text-align: center;">  </div>		
To prevent damage to electrical connector, do not insert an oversize test lead in a connector, or let lead hang from a pin contact.		
(1) On 22P-H069, jumper pin 3 to aircraft ground. (2) Turn on electrical power (A1-F18AC-LMM-000). (3) Does 115vac exist from: 22P-H069 pin 11 to aircraft ground 22P-H069 pin 12 to aircraft ground 22P-H069 pin 13 to aircraft ground?	m	k
k. Do substeps below:		
(1) Remove electrical power (A1-F18AC-LMM-000). (2) Remove avionics cooling fan filter (A1-F18AC-410-300, WP085 00). (3) Is avionics cooling fan filter clogged?	i	l
l. Replace avionics cooling fan filter (A1-F18AC-410-300, WP085 00) and do step aa	-	-
m. Do substeps below:		
(1) Remove electrical power (A1-F18AC-LMM-000). (2) Open door 10L (A1-F18AC-LMM-010). (3) Disconnect 52P-C057D from no. 7 circuit breaker/relay panel assembly.		

Table 1. Code 836 (Continued)

Procedure	No	Yes
(4) Does continuity exist from: 52P-C057D pin 60 to 22P-H069 pin 13 52P-C057D pin 61 to 22P-H069 pin 12 52P-C057D pin 62 to 22P-H069 pin 11?.....	f	n
n. Isolate between no. 7 circuit breaker/relay panel assembly wiring and relay 22K-C065 and circuit breakers 22CBC062, 22CBC063, 22CBC064 (A1-F18AC-420-300, WP027 00) and do step aa.....	-	-
o. Do substeps below: (1) On FAN TEST control panel assembly, set and hold cabin cooling FAN TEST switch to A LEFT. (2) Does left avionics cooling fan work?	t	p
p. Do substeps below: (1) Release cabin cooling FAN TEST switch. (2) Remove electrical power (A1-F18AC-LMM-000). (3) Disconnect 52P-J053 from FAN TEST control panel assembly. (4) Does continuity exist from 52J-J053 pin 1 to pin 2?.....	q	r
q. Replace FAN TEST control panel assembly (A1-F18AC-410-300, WP082 00) and do step aa	-	-
r. Do substeps below: (1) Open door 14R (A1-F18AC-LMM-010). (2) Disconnect 52P-F058B from no. 2 relay panel assembly. (3) Does continuity exist from 52J-F058B pin 38 to pin 49?	s	f
s. Isolate between no. 2 relay panel assembly wiring and relay 1K-F081 (A1-F18AC-420-300, WP032 00) and do step aa	-	-
t. Do substeps below: (1) Release cabin cooling FAN TEST switch. (2) Turn off electrical power (A1-F18AC-LMM-000). (3) Remove left internal door CPQ (A1-F18AC-LMM-010). (4) Disconnect 22P-H069 from left avionics cooling fan.		

Table 1. Code 836 (Continued)

Procedure	No	Yes
(5) Does continuity exist from 22J-H069 pin 3 to pin 4?	i	u
u. Do substeps below:		
(1) Open door 10L (A1-F18AC-LMM-010).		
(2) Disconnect 52P-C057D from no. 7 circuit breaker/relay panel assembly.		
(3) Does continuity exist from:		
22P-H069 pin 4 to aircraft ground		
22P-H069 pin 3 to 52P-C057D pin 27?	f	v
v. Do substeps below:		
(1) Disconnect 52P-J053 from FAN TEST control panel assembly.		
(2) Disconnect 52P-C057E from no. 7 circuit breaker/relay panel assembly.		
(3) Does continuity exist from 52P-J053 pin 2 to 52P-C057E pin 68?	f	w
w. Do substeps below:		
(1) Connect 52P-C057D and 52P-C057E to no. 7 circuit breaker/relay panel assembly.		
(2) Turn on electrical power (A1-F18AC-LMM-000).		
(3) Does 28vdc exist from 52P-J053 pin 1 to aircraft ground?	y	x
x. Do substeps below:		
(1) Remove electrical power (A1-F18AC-LMM-000).		
(2) Does continuity exist from 52J-J053 pin 1 to pin 2?	q	g
y. Do substeps below:		
(1) Remove electrical power (A1-F18AC-LMM-000).		
(2) Open door 10R and 14R (A1-F18AC-LMM-010).		
(3) Disconnect 52P-F058B from no. 2 relay panel assembly.		
(4) Disconnect 52P-D026A from no. 4 circuit breaker panel assembly.		
(5) Does continuity exist from 52P-F058B pin 38 to 52P-D026A pin 37?	f	z
z. Isolate between no. 4 circuit breaker panel assembly wiring and circuit breaker 22CBD057 (A1-F18AC-420-300, WP025 00) and do step aa	-	-

Table 1. Code 836 (Continued)

Procedure	No	Yes
aa. If disconnected, removed, or opened during this procedure, make sure the items listed below are connected, installed, or closed: <ul style="list-style-type: none"> (1) Remove electrical power (2) Remove ground jumper on 22P-H069, pin 3. (3) Avionics cooling fan filter (4) Left internal door CPQ (5) 82P-F001A (6) 52P-C057E (7) 22P-H069 (8) 52P-C057D (9) 52P-J053 (10) 52P-F058B (11) 52P-D026A (12) Door 10R (13) Door 13R (14) Door 14R (15) Door 10L..... 	-	-

ORGANIZATIONAL MAINTENANCE

FAULT ISOLATION MANUAL

TROUBLESHOOTING PROCEDURE

EFFECTIVITY: 162394 AND UP

Reference Material

Line Maintenance Procedures.....	A1-F18AC-LMM-000
Environmental Control Systems.....	A1-F18AC-410-500
Avionics Cooling System	WP009 00

Alphabetical Index

Subject	Page No.
Table 1.....	1

Record of Applicable Technical Directives

None

Table 1. Code 837

Support Equipment Required

NOTE

Alternate item type designations or part numbers are listed in parentheses.

Part Number or Type Designation	Nomenclature
260-6XLP (AN/USM-311)	Multimeter

Table 1. Code 837 (Continued)


<p align="center">Materials Required</p> <p align="center">None</p> <p align="center">NOTE</p> <p>Cockpit Avionics Cooling System Schematic - 162394 AND UP (A1-F18AC-410-500, WP009 00) may be used as an aid when doing this procedure.</p> <p>The component locator, refer to A1-F18AC-410-500, WP009 00.</p> <p>Malfunction is caused by one of the items below:</p> <p>Aircraft Wiring Avionics Cooling Fan Filter Control Converter C-10382/A FAN TEST Control Panel Assembly Right Avionics Cooling Fan No. 2 Circuit Breaker Panel Assembly No. 2 Relay Panel Assembly No. 4 Circuit Breaker Panel Assembly</p>		
Procedure	No	Yes
<p align="center"></p> <p>To prevent damage to low level devices (switches/relay contacts), do not test for continuity with multimeter on the RX1 scale. Pin to pin tests that do not go through switches/relay contacts may use RX1 scale.</p> <p align="center">NOTE</p> <p>The question used in logic tree "Does continuity exist" means to test for the items listed below:</p> <ol style="list-style-type: none"> 1. Pin to pin test per procedural step. 2. Shorts to ground. 3. Shorts between surrounding pins on connectors. 4. Shorts between shield and conductors. 5. Shield continuity. <p>a. Do substeps below:</p> <ol style="list-style-type: none"> (1) Reset nose wheelwell digital display indicator (A1-F18AC-LMM-000). (2) Apply electrical power (A1-F18AC-LMM-000). 		

Table 1. Code 837 (Continued)

Procedure	No	Yes
(3) On GND PWR control panel assembly, set and hold 2 switch to B ON for three seconds.		
(4) Does right avionics cooling fan work?	q	b
b. Observe nose wheelwell digital display indicator for code 837 (A1-F18AC-LMM-000). Is code 837 displayed?	h	c
c. Do substeps below:		
(1) Turn off electrical power (A1-F18AC-LMM-000).		
(2) Open door 13R (A1-F18AC-LMM-010).		
(3) Disconnect 82P-F001A from Control Converter C-10382/A.		
(4) Turn on electrical power (A1-F18AC-LMM-000).		
(5) Does continuity exist from 82P-F001A pin 105 to aircraft ground?	e	d
d. Replace Control Converter C-10382/A (A1-F18AC-741-300, WP005 00) and do step ac	-	-
e. Do substeps below:		
(1) Remove electrical power (A1-F18AC-LMM-000).		
(2) Open door 14R (A1-F18AC-LMM-010).		
(3) Disconnect 52P-F058C from no. 2 relay panel assembly.		
(4) Does continuity exist from 52P-F058C pin 36 to 82P-F001A pin 105?	f	g
f. Isolate defective aircraft wiring (A1-F18A()-WDM-000) and do step ac	-	-
g. Isolate between no. 2 relay panel assembly wiring and relay 22K-F066 (A1-F18AC-420-300, WP032 00) and do step ac	-	-
h. Do substeps below:		
(1) Turn off electrical power (A1-F18AC-LMM-000).		
(2) Remove right internal door CPQ (A1-F18AC-LMM-010).		
(3) Disconnect 22P-J068 from right avionics cooling fan.		

Table 1. Code 837 (Continued)


Procedure	No	Yes
(4) Does continuity exist from right avionics cooling fan receptacle: 22B-J068 pin 1 to pin 11 22B-J068 pin 1 to pin 12 22B-J068 pin 1 to pin 13?	i	j
i. Replace right avionics cooling fan (A1-F18AC-410-300, WP084 00) and do step ac.....	-	-
j. Do substeps below:		
<div style="text-align: center;">  </div>		
<p style="text-align: center;">To prevent damage to electrical connector, do not insert an oversize test lead in a connector, or let lead hang from a pin contact.</p>		
(1) On 22P-J068, jumper pin 3 to aircraft ground.		
(2) Turn on electrical power (A1-F18AC-LMM-000).		
(3) Does 115vac exist from: 22P-J068 pin 11 to aircraft ground 22P-J068 pin 12 to aircraft ground 22P-J068 pin 13 to aircraft ground?.....	m	k
k. Do substeps below:		
(1) Remove electrical power (A1-F18AC-LMM-000).		
(2) Remove avionics cooling fan filter (A1-F18AC-410-300, WP085 00).		
(3) Is avionics cooling fan filter clogged?	i	l
l. Replace avionics cooling fan filter (A1-F18AC-410-300, WP085 00) and do step ac	-	-
m. Do substeps below:		
(1) Turn off electrical power (A1-F18AC-LMM-000).		
(2) Open door 14R (A1-F18AC-LMM-010).		
(3) Disconnect 52P-F058E from no. 2 relay panel assembly.		

Table 1. Code 837 (Continued)

Procedure	No	Yes
<p>(4) Does continuity exist from:</p> <p>52P-F058E pin 98 to 22P-J068 pin 11 52P-F058E pin 97 to 22P-J068 pin 12 52P-F058E pin 85 to 22P-J068 pin 13?</p>	f	n
n. Do substeps below:		
<p>(1) Turn on electrical power (A1-F18AC-LMM-000).</p> <p>(2) Does 115vac exist from:</p> <p>52P-F058E pin 49 to aircraft ground 52P-F058E pin 60 to aircraft ground 52P-F058E pin 73 to aircraft ground?</p>	o	g
o. Do substeps below:		
<p>(1) Remove electrical power (A1-F18AC-LMM-000).</p> <p>(2) Open door 10R (A1-F18AC-LMM-010).</p> <p>(3) Disconnect 52P-D024D from no. 2 circuit breaker panel assembly.</p> <p>(4) Does continuity exist from:</p> <p>52P-D024D pin 26 to 52P-F058E pin 49 52P-D024D pin 19 to 52P-F058E pin 60 52P-D024D pin 66 to 52P-F058E pin 73?</p>	f	p
p. Isolate between no. 2 circuit breaker panel assembly wiring and circuit breakers 22CBD059, 22CBD060, 22CBD061 (A1-F18AC-420-300, WP024 00) and do step ac	-	-
q. Do substeps below:		
<p>(1) On FAN TEST control panel assembly, set and hold cabin cooling FAN TEST switch B RIGHT.</p> <p>(2) Does right avionics cooling fan work?</p>	v	r
r. Do substeps below:		
<p>(1) Release cabin cooling FAN TEST switch.</p> <p>(2) Remove electrical power (A1-F18AC-LMM-000).</p> <p>(3) Disconnect 52P-J053 from FAN TEST control panel assembly.</p> <p>(4) Does continuity exist from 52J-J053 pin 1 to pin 13?</p>	s	t

Table 1. Code 837 (Continued)

Procedure	No	Yes
s. Replace FAN TEST control panel assembly (A1-F18AC-410-300, WP082 00) and do step ac.....	-	-
t. Do substeps below:		
(1) Open door 14R (A1-F18AC-LMM-010).		
(2) Disconnect 52P-F058B from no. 2 relay panel assembly.		
(3) Does continuity exist from 52J-F058B pin 38 to pin 49?	u	f
u. Isolate between no. 2 relay panel assembly wiring and relay 1K-F081 (A1-F18AC-420-300, WP032 00) and do step ac.....	-	-
v. Do substeps below:		
(1) Release cabin cooling FAN TEST switch.		
(2) Turn off electrical power (A1-F18AC-LMM-000).		
(3) Remove right internal door CPQ (A1-F18AC-LMM-010).		
(4) Disconnect 22P-J068 from right avionics cooling fan.		
(5) Does continuity exist from 22J-J068 pin 3 to pin 4?	i	w
w. Do substeps below:		
(1) Open door 14R (A1-F18AC-LMM-010).		
(2) Disconnect 52P-F058E from no. 2 relay panel assembly.		
(3) Does continuity exist from:		
22P-J068 pin 4 to aircraft ground		
22P-J068 pin 3 to 52P-F058E pin 114?	f	x
x. Do substeps below:		
(1) Disconnect 52P-J053 from FAN TEST control panel assembly.		
(2) Does continuity exist from 52P-J053 pin 13 to 52P-F058E pin 99?	f	y
y. Do substeps below:		
(1) Connect 52P-F058E to no. 2 relay panel assembly.		
(2) Turn on electrical power (A1-F18AC-LMM-000).		
(3) Does 28vdc exist from 52P-J053 pin 1 to aircraft ground?	aa	z

Table 1. Code 837 (Continued)

Procedure	No	Yes
z. Do substeps below:		
(1) Remove electrical power (A1-F18AC-LMM-000).		
(2) Does continuity exist from 52J-J053 pin 1 to pin 13?.....	s	g
aa. Do substeps below:		
(1) Remove electrical power (A1-F18AC-LMM-000).		
(2) Open door 10R (A1-F18AC-LMM-010).		
(3) Disconnect 52P-D026A from no. 4 circuit breaker panel assembly.		
(4) Does continuity exist from 52P-D026A pin 37 to 52P-F058B pin 38?	f	ab
ab. Isolate between no. 4 circuit breaker panel assembly wiring and circuit breaker 22CBD057 (A1-F18AC-420-300, WP025 00) and do step ac	-	-
ac. If disconnected, removed, or opened during this procedure, make sure the items listed below are connected, installed, or closed:		
(1) Remove electrical power		
(2) Remove ground jumper from pin 3 on 22P-J068		
(3) Avionics cooling fan filter		
(4) Right internal door CPQ		
(5) 82P-F001A		
(6) 52P-D024D		
(7) 52P-F058C		
(8) 22P-J068		
(9) 52P-F058E		
(10) 52P-J053		
(11) 52P-F058B		
(12) 52P-D026A		
(13) Door 14R		

Table 1. Code 837 (Continued)

Procedure	No	Yes
(14) Door 10R		
(15) Door 13R.....	-	-

ORGANIZATIONAL MAINTENANCE

FAULT ISOLATION MANUAL

TROUBLESHOOTING PROCEDURE

EFFECTIVITY: F/A-18B 162402 AND UP AND F/A-18D

Reference Material

Line Maintenance Procedures.....	A1-F18AC-LMM-000
Environmental Control Systems.....	A1-F18AC-410-500
Avionics Cooling System	WP009 00

Alphabetical Index

Subject	Page No.
Table 1.....	1

Record of Applicable Technical Directives

None

Table 1. Code 838

Support Equipment Required

NOTE

Alternate item type designations or part numbers are listed in parentheses.

Part Number or Type Designation	Nomenclature
260-6XLP (AN/USM-311)	Multimeter

Table 1. Code 838 (Continued)


<p align="center">Materials Required</p> <p align="center">None</p> <p align="center">NOTE</p> <p>Cockpit Avionics Cooling System Schematic - 162394 AND UP (A1-F18AC-410-500, WP009 00) may be used as an aid when doing this procedure.</p> <p>For component locator, refer to A1-F18AC-410-500, WP009 00.</p> <p>Malfunction is caused by one of the items below:</p> <p>Aircraft Wiring Control Converter C-10382/A FAN TEST Control and Utility Light Panel Assembly Left Rear Avionics Cooling Fan No. 2 Relay Panel Assembly No. 4 Circuit Breaker Panel Assembly No. 7 Circuit Breaker/Relay Panel Assembly Rear Avionics Cooling Fan Filter</p>		
Procedure	No	Yes
<p align="center"></p> <p>To prevent damage to low level devices (switches/relay contacts), do not test for continuity with multimeter on the RX1 scale. Pin to pin tests that do not go through switches/relay contacts may use RX1 scale.</p> <p>To prevent damage to aircraft wiring or equipment, make sure multimeter leads/jumper wires are installed on correct pins. When electrical power is off, 24vdc battery voltage exists on some pins of connectors listed below:</p> <p>52P-C057E</p> <p align="center">NOTE</p> <p>The question used in logic tree "Does continuity exist" means to test for the items listed below:</p> <ol style="list-style-type: none"> 1. Pin to pin test per procedural step. 2. Shorts to ground. 3. Shorts between surrounding pins on connectors. 4. Shorts between shield and conductors. 5. Shield continuity. 		

Table 1. Code 838 (Continued)

Procedure	No	Yes
a. Do substeps below:		
(1) Do nose wheelwell digital display indicator built-in test/reset procedure (A1-F18AC-LMM-000).		
(2) Apply electrical power (A1-F18AC-LMM-000).		
(3) On GND PWR control panel assembly, set and hold 2 switch to B ON for three seconds.		
(4) Does left rear avionics cooling fan work?	o	b
b. Observe nose wheelwell digital display indicator for code 838 (A1-F18AC-LMM-000). Is code 838 displayed?	h	c
c. Do substeps below:		
(1) Turn off electrical power (A1-F18AC-LMM-000).		
(2) Open door 13R (A1-F18AC-LMM-010).		
(3) Disconnect 82P-F001A from Control Converter C-10382/A.		
(4) Turn on electrical power (A1-F18AC-LMM-000).		
(5) Does continuity exist from 82P-F001A pin 106 to aircraft ground?	e	d
d. Replace Control Converter C-10382/A (A1-F18AC-741-300, WP005 00 or A1-F18AE-741-300, WP005 00) and do step aa	-	-
e. Do substeps below:		
(1) Remove electrical power (A1-F18AC-LMM-000).		
(2) Open door 10L (A1-F18AC-LMM-010).		
(3) Disconnect 52P-C057E from no. 7 circuit breaker/relay panel assembly.		
(4) Does continuity exist from 82P-F001A pin 106 to 52P-C057E pin 16?	f	g
f. Isolate defective aircraft wiring (A1-F18A()-WDM-000) and do step aa	-	-
g. Isolate between no. 7 circuit breaker/relay panel assembly wiring and relay 22K-C112 (A1-F18AC-420-300, WP027 00) and do step aa	-	-
h. Do substeps below:		
(1) Turn off electrical power (A1-F18AC-LMM-000).		

Table 1. Code 838 (Continued)

Procedure	No	Yes
(2) Remove left internal door CPZ (A1-F18AC-LMM-010).		
(3) Disconnect 22P-K114 from left rear avionics cooling fan.		
(4) Does continuity exist from left rear avionics cooling fan receptacle:		
22B-K114 pin 1 to pin 11		
22B-K114 pin 1 to pin 12		
22B-K114 pin 1 to pin 13?	i	j
i. Replace left rear avionics cooling fan (A1-F18AC-410-300, WP086 00) and do step aa.....	-	-
j. Do substeps below:		
(1) Turn on electrical power (A1-F18AC-LMM-000).		
(2) Does 115vac exist from:		
22P-K114 pin 11 to aircraft ground		
22P-K114 pin 12 to aircraft ground		
22P-K114 pin 13 to aircraft ground?	m	k
k. Do substeps below:		
(1) Remove electrical power (A1-F18AC-LMM-000).		
(2) Remove rear avionics cooling fan filter (A1-F18AC-410-300, WP087 00).		
(3) Is rear avionics cooling fan filter clogged?	i	l
l. Replace rear avionics cooling fan filter (A1-F18AC-410-300, WP087 00) and do step aa.....	-	-
m. Do substeps below:		
(1) Remove electrical power (A1-F18AC-LMM-000).		
(2) Open door 10L (A1-F18AC-LMM-010).		
(3) Disconnect 52P-C057C from no. 7 circuit breaker/relay panel assembly.		
(4) Does continuity exist from:		
52P-C057C pin R to 22P-K114 pin 13		
52P-C057C pin P to 22P-K114 pin 12		
52P-C057C pin N to 22P-K114 pin 11?	f	n

Table 1. Code 838 (Continued)

Procedure	No	Yes
n. Isolate between no. 7 circuit breaker/relay panel assembly wiring and relay 22K-C065 and circuit breakers 22CBC062, 22CBC063, 22CBC064 (A1-F18AC-420-300, WP027 00) and do step aa.....	-	-
o. Do substeps below:		
(1) On FAN TEST control and utility light panel assembly, set and hold rear cabin cooling FAN TEST switch to A LEFT.		
(2) Does left rear avionics cooling fan work?	t	p
p. Do substeps below:		
(1) Release rear cabin cooling FAN TEST switch.		
(2) Remove electrical power (A1-F18AC-LMM-000).		
(3) Remove FAN TEST control and utility light panel assembly (A1-F18AC-410-300, WP083 00).		
(4) Does continuity exist from 52J-L309 pin 1 to pin 13?	q	r
q. Replace FAN TEST control and utility light panel assembly (A1-F18AC-410-300, WP083 00) and do step aa.....	-	-
r. Do substeps below:		
(1) Open door 14R (A1-F18AC-LMM-010).		
(2) Disconnect 52P-F058B from no. 2 relay panel assembly.		
(3) Does continuity exist from 52J-F058B pin 38 to pin 49?	s	f
s. Isolate between no. 2 relay panel assembly wiring and relay 1K-F081 (A1-F18AC-420-300, WP032 00) and do step aa	-	-
t. Do substeps below:		
(1) Release rear cabin cooling FAN TEST switch.		
(2) Turn off electrical power (A1-F18AC-LMM-000).		
(3) Remove left internal door CPZ (A1-F18AC-LMM-010).		
(4) Disconnect 22P-K114 from left rear avionics cooling fan.		
(5) Does continuity exist from 22J-K114 pin 3 to pin 4?	i	u

Table 1. Code 838 (Continued)

Procedure	No	Yes
u. Do substeps below:		
(1) Open door 10L (A1-F18AC-LMM-010).		
(2) Disconnect 52P-C057G from no. 7 circuit breaker/relay panel assembly.		
(3) Does continuity exist from:		
22P-K114 pin 1 to aircraft ground		
22P-K114 pin 4 to aircraft ground		
22P-K114 pin 3 to 52P-C057G pin 56?	f	v
v. Do substeps below:		
(1) Remove FAN TEST control and utility light panel assembly (A1-F18AC-410-300, WP083 00).		
(2) Disconnect 52P-C057E from no. 7 circuit breaker/relay panel assembly.		
(3) Does continuity exist from 52P-L309 pin 13 to 52P-C057G pin 83?	f	w
w. Do substeps below:		
(1) Connect 52P-C057G, 52P-C057C and 52P-C057E to no. 7 circuit breaker/relay panel assembly.		
(2) Turn on electrical power (A1-F18AC-LMM-000).		
(3) Does 28vdc exist from 52P-L309 pin 1 to aircraft ground?	y	x
x. Do substeps below:		
(1) Remove electrical power (A1-F18AC-LMM-000).		
(2) Does continuity exist from 52J-L309 pin 1 to pin 13?	q	g
y. Do substeps below:		
(1) Remove electrical power (A1-F18AC-LMM-000).		
(2) Open door 10R and 14R (A1-F18AC-LMM-010).		
(3) Disconnect 52P-F058B from no. 2 relay panel assembly.		
(4) Disconnect 52P-D026A from no. 4 circuit breaker panel assembly.		
(5) Does continuity exist from 52P-F058B pin 38 to 52P-D026A pin 37?	f	z
z. Isolate between no. 4 circuit breaker panel assembly wiring and circuit breaker 22CBD057 (A1-F18AC-420-300, WP025 00) and do step aa	-	-

Table 1. Code 838 (Continued)

Procedure	No	Yes
aa. If disconnected, removed, or opened during this procedure, make sure the items listed below are connected, installed, or closed: <ul style="list-style-type: none"> (1) Rear avionics cooling fan filter (2) Left internal door CPZ (3) FAN TEST control and utility light panel assembly (4) 22P-K114 (5) 52P-C057C (6) 52P-C057E (7) 52P-C057G (8) 52P-D026A (9) 52P-F058B (10) 82P-F001A (11) Door 10L (12) Door 10R (13) Door 13R (14) Door 14R..... 	-	-

ORGANIZATIONAL MAINTENANCE

FAULT ISOLATION MANUAL

TROUBLESHOOTING PROCEDURE

EFFECTIVITY: F/A-18B 162402 AND UP AND F/A-18D

Reference Material

Line Maintenance Procedures	A1-F18AC-LMM-000
Environmental Control Systems.....	A1-F18AC-410-500
Avionics Cooling System	WP009 00

Alphabetical Index

Subject	Page No.
Table 1.....	1

Record of Applicable Technical Directives

None

Table 1. Code 839

Support Equipment Required

NOTE

Alternate item type designations or part numbers are listed in parentheses.

Part Number or Type Designation	Nomenclature
260-6XLP (AN/USM-311)	Multimeter

Table 1. Code 839 (Continued)


<p align="center">Materials Required</p> <p align="center">None</p> <p align="center">NOTE</p> <p>Cockpit Avionics Cooling System Schematic - 162394 AND UP (A1-F18AC-410-500, WP009 00) may be used as an aid when doing this procedure.</p> <p>For component locator, refer to A1-F18AC-410-500, WP009 00.</p> <p>Malfunction is caused by one of the items below:</p> <p>Aircraft Wiring Control Converter C-10382/A FAN TEST Control and Utility Light Panel Assembly Right Rear Avionics Cooling Fan No. 2 Circuit Breaker Panel Assembly No. 2 Relay Panel Assembly No. 4 Circuit Breaker Panel Assembly No. 7 Circuit Breaker/Relay Panel Assembly Rear Avionics Cooling Fan Filter</p>		
Procedure	No	Yes
<p align="center">  </p> <p>To prevent damage to low level devices (switches/relay contacts), do not test for continuity with multimeter on the RX1 scale. Pin to pin tests that do not go through switches/relay contacts may use the RX1 scale.</p> <p>To prevent damage to aircraft wiring or equipment, make sure multimeter leads/jumper wires are installed on correct pins. When electrical power is off, 24vdc battery voltage exists on some pins of connectors listed below:</p> <p>52P-C057E</p>		

Table 1. Code 839 (Continued)

Procedure	No	Yes
<p style="text-align: center;">NOTE</p> <p>The question used in logic tree "Does continuity exist" means to test for the items listed below:</p> <ol style="list-style-type: none"> 1. Pin to pin test per procedural step. 2. Shorts to ground. 3. Shorts between surrounding pins on connectors. 4. Shorts between shield and conductors. 5. Shield continuity. 		
a. Do substeps below:		
(1) Do nose wheelwell digital display indicator built-in test/reset procedure (A1-F18AC-LMM-000).		
(2) Apply electrical power (A1-F18AC-LMM-000).		
(3) On GND PWR control panel assembly, set and hold 2 switch to B ON for three seconds.		
(4) Does right rear avionics cooling fan work?	q	b
b. Observe nose wheelwell digital display indicator for code 839 (A1-F18AC-LMM-000). Is code 839 displayed?.....	h	c
c. Do substeps below:		
(1) Turn off electrical power (A1-F18AC-LMM-000).		
(2) Open door 13R (A1-F18AC-LMM-010).		
(3) Disconnect 82P-F001A from Control Converter C-10382/A.		
(4) Turn on electrical power (A1-F18AC-LMM-000).		
(5) Does continuity exist from 82P-F001A pin 113 to aircraft ground?	e	d
d. Replace Control Converter C-10382/A (A1-F18AC-741-300, WP005 00 or A1-F18AE-741-300, WP005 00) and do step ac.....	-	-
e. Do substeps below:		
(1) Remove electrical power (A1-F18AC-LMM-000).		
(2) Open door 10L (A1-F18AC-LMM-010).		
(3) Disconnect 52P-C057E from no. 7 circuit breaker/relay panel assembly.		

Table 1. Code 839 (Continued)

Procedure	No	Yes
(4) Does continuity exist from 52P-C057E pin 13 to 82P-F001A pin 113?.....	f	g
f. Isolate defective aircraft wiring (A1-F18A()-WDM-000) and do step ac.....	-	-
g. Isolate between no. 7 circuit breaker/relay panel assembly wiring and relay 22K-C111 (A1-F18AC-420-300, WP027 00) and do step ac	-	-
h. Do substeps below:		
(1) Turn off electrical power (A1-F18AC-LMM-010).		
(2) Remove right internal door CPZ (A1-F18AC-LMM-010).		
(3) Disconnect 22P-L113 from right rear avionics cooling fan.		
(4) Does continuity exist from right rear avionics cooling fan receptacle:		
22B-L113 pin 1 to pin 11		
22B-L113 pin 1 to pin 12		
22B-L113 pin 1 to pin 13?	i	j
i. Replace right rear avionics cooling fan (A1-F18AC-410-300, WP086 00) and do step ac	-	-
j. Do substeps below:		
(1) Turn on electrical power (A1-F18AC-LMM-000).		
(2) Does 115vac exist from:		
22P-L113 pin 11 to aircraft ground		
22P-L113 pin 12 to aircraft ground		
22P-L113 pin 13 to aircraft ground?	m	k
k. Do substeps below:		
(1) Remove electrical power (A1-F18AC-LMM-000).		
(2) Remove rear avionics cooling fan filter (A1-F18AC-410-300, WP087 00).		
(3) Is rear avionics cooling fan filter clogged?	i	l
l. Replace rear avionics cooling fan filter (A1-F18AC-410-300, WP087 00) and do step ac	-	-
m. Do substeps below:		
(1) Turn off electrical power (A1-F18AC-LMM-000).		
(2) Open door 10L (A1-F18AC-LMM-010).		

Table 1. Code 839 (Continued)

Procedure	No	Yes
(3) Disconnect 52P-C057G from no. 7 circuit breaker/relay panel assembly. (4) Does continuity exist from: 52P-C057G pin 10 to 22P-L113 pin 11 52P-C057G pin 11 to 22P-L113 pin 12 52P-C057G pin 19 to 22P-L113 pin 13?	f	n
n. Do substeps below: (1) Turn on electrical power (A1-F18AC-LMM-000). (2) Does 115vac exist from: 52P-C057G pin 9 to aircraft ground 52P-C057G pin 17 to aircraft ground 52P-C057G pin 18 to aircraft ground?	o	g
o. Do substeps below: (1) Remove electrical power (A1-F18AC-LMM-000). (2) Open door 10R (A1-F18AC-LMM-010). (3) Disconnect 52P-D024D from no. 2 circuit breaker panel assembly. (4) Does continuity exist from: 52P-D024D pin 26 to 52P-C057G pin 9 52P-D024D pin 19 to 52P-C057G pin 17 52P-D024D pin 66 to 52P-C057G pin 18?	f	p
p. Isolate between no. 2 circuit breaker panel assembly wiring and circuit breakers 22CBD059, 22CBD060, 22CBD061 (A1-F18AC-420-300, WP024 00) and do step ac	-	-
q. Do substeps below: (1) On FAN TEST control and utility light panel assembly, set and hold rear cabin cooling FAN TEST switch B RIGHT. (2) Does right rear avionics cooling fan work?	v	r
r. Do substeps below: (1) Release rear cabin cooling FAN TEST switch. (2) Remove electrical power (A1-F18AC-LMM-000).		

Table 1. Code 839 (Continued)

Procedure	No	Yes
(3) Remove FAN TEST control and utility light panel assembly (A1-F18AC-410-300, WP083 00).		
(4) Does continuity exist from 52J-L309 pin 1 to pin 12?	s	t
s. Replace FAN TEST control and utility light panel assembly (A1-F18AC-410-300, WP083 00) and do step ac	-	-
t. Do substeps below:		
(1) Open door 14R (A1-F18AC-LMM-010).		
(2) Disconnect 52P-F058B from no. 2 relay panel assembly.		
(3) Does continuity exist from 52J-F058B pin 38 to pin 49?	u	f
u. Isolate between no. 2 relay panel assembly wiring and relay 1K-F081 (A1-F18AC-420-300, WP032 00) and do step ac	-	-
v. Do substeps below:		
(1) Release rear cabin cooling FAN TEST switch.		
(2) Turn off electrical power (A1-F18AC-LMM-000).		
(3) Remove right internal door CPZ (A1-F18AC-LMM-010).		
(4) Disconnect 22P-L113 from right rear avionics cooling fan.		
(5) Does continuity exist from 22J-L113 pin 3 to pin 4?	i	w
w. Do substeps below:		
(1) Open door 10L (A1-F18AC-LMM-010).		
(2) Disconnect 52P-C057G from no. 7 circuit breaker/relay panel assembly.		
(3) Does continuity exist from:		
22P-L113 pin 4 to aircraft ground		
22P-L113 pin 1 to aircraft ground		
22P-L113 pin 3 to 52P-C057G pin 15?	f	x
x. Do substeps below:		
(1) Remove FAN TEST control and utility light panel assembly, (A1-F18AC-410-300, WP083 00).		
(2) Does continuity exist from 52P-L309 pin 12 to 52P-C057G pin 82?	f	y

Table 1. Code 839 (Continued)

Procedure	No	Yes
y. Do substeps below:		
(1) Connect 52P-C057G and 52P-C057E to no. 7 circuit breaker/relay panel assembly.		
(2) Turn on electrical power (A1-F18AC-LMM-000).		
(3) Does 28vdc exist from 52P-L309 pin 1 to aircraft ground?.....	aa	z
z. Do substeps below:		
(1) Remove electrical power (A1-F18AC-LMM-000).		
(2) Does continuity exist from 52J-L309 pin 1 to pin 12?.....	s	g
aa. Do substeps below:		
(1) Remove electrical power (A1-F18AC-LMM-000).		
(2) Open door 10R (A1-F18AC-LMM-010).		
(3) Disconnect 52P-D026A from no. 4 circuit breaker panel assembly.		
(4) Does continuity exist from 52P-D026A pin 37 to 52P-F058B pin 38?	f	ab
ab. Isolate between no. 4 circuit breaker panel assembly wiring and circuit breaker 22CBD057 (A1-F18AC-420-300, WP025 00) and do step ac.....	-	-
ac. If disconnected, removed, or opened during this procedure, make sure the items listed below are connected, installed, or closed:		
(1) Remove electrical power		
(2) Rear avionics cooling fan filter		
(3) Right internal door CPZ		
(4) FAN TEST control and utility light panel assembly		
(5) 52P-D024D		
(6) 82P-F001A		
(7) 52P-C057G		
(8) 22P-L113		
(9) 52P-C057E		
(10) 52P-F058B		

Table 1. Code 839 (Continued)

Procedure	No	Yes
(11) 52P-D026A		
(12) Door 10L		
(13) Door 10R		
(14) Door 13R		
(15) Door 14R.....	-	-

ORGANIZATIONAL MAINTENANCE

FAULT ISOLATION MANUAL

TROUBLESHOOTING PROCEDURE

This WP supersedes WP167 00, dated 15 February 1992.



Title	WP Number
Troubleshooting Procedure - F/A-18A AND F/A-18B WITH RT-1250()/ARC INSTALLED; ALSO F/A-18C AND F/A-18D WITH RT-1250()/ARC INSTALLED BEFORE F/A-18 AFC 185	167 01
Troubleshooting Procedure - F/A-18C AND F/A-18D WITH RT-1556()/ARC INSTALLED; ALSO F/A-18C AND F/A-18D WITH RT-1556()/ARC INSTALLED AFTER F/A-18 AFC 185	167 02

ORGANIZATIONAL MAINTENANCE

FAULT ISOLATION MANUAL

TROUBLESHOOTING PROCEDURE

EFFECTIVITY: F/A-18A AND F/A-18B WITH RT-1250()/ARC INSTALLED; ALSO F/A-18C AND F/A-18D WITH RT-1250()/ARC INSTALLED BEFORE F/A-18 AFC 185

Reference Material

Line Maintenance Procedures.....	A1-F18AC-LMM-000
Line Maintenance Access Doors.....	A1-F18AC-LMM-010
Communications, TACAN, ADF, Electronic Altimeter, and IFF Systems.....	A1-F18AC-600-300
Receiver-Transmitter RT-1250()/ARC.....	WP003 00

Alphabetical Index

Subject	Page No.
Table 1.....	1
Table 2.....	7

Record of Applicable Technical Directives

None

Table 1. Maintenance Action For Maintenance Codes 176 And 180

Support Equipment Required	
Part Number or Type Designation	Nomenclature
1502-04 74D420048-100	Time Domain Reflectometer TDR Adapter Kit
Materials Required	
Specification or Part Number	Nomenclature
MS20995NC20 (CAGE 96906)	Lockwire

Table 1. Maintenance Action For Maintenance Codes 176 And 180 (Continued)

<p style="text-align: center;">NOTE</p> <p>VHF/UHF Receiver-Transmitter No. 1 Functional Schematic (A1-F18AC-600-500, WP005 00) and Data Link System Message Receiving, Transmitting, and Mode Control Functional Schematic (A1-F18AC-630-510/(C), WP010 00) may be used for this procedure.</p> <p>For locator, refer to A1-F18AC-600-200, WP016 00 and A1-F18AC-630-200, WP016 00 or A1-F18AE-630-200, WP017 00.</p> <p>Malfunction is caused by one of the items below:</p> <p>Antenna selector Upper comm antenna Lower aft comm antenna Lower forward comm antenna Coax cables</p>		
Procedure	No	Yes
<p>a. Do the substeps below:</p> <p>(1) Apply electrical power (A1-F18AC-LMM-000).</p> <p>(2) On GND PWR control panel assembly, set and hold 1 switch to A ON and 2 switch to B ON for 3 seconds.</p> <p>(3) On left and right Digital Display Indicator (LDDI and RDDI), set power switch to NIGHT or DAY. Allow 2 minute warmup. Adjust BRT and CONT controls for best display.</p> <p>(4) On electronic equipment control, do substeps below:</p> <p>(a) Turn COMM 1 VOL control cw to midposition.</p> <p>(b) Adjust BRT/DIM control for best display.</p> <p>(c) Turn COMM 1 channel selector until M is displayed on the COMM 1 channel display.</p> <p>(d) Pull COMM 1 channel selector to the extended position and release.</p> <p>(e) Enter an inactive frequency using keyboard switches.</p> <p>(f) Press ENT keyboard switch.</p> <p>(5) On ANT SEL control panel assembly, set ANT SEL-COMM 1 switch to UPPER.</p> <p>(6) On right throttle grip, momentarily key COMM 1 (COMM switch up).</p>		

Table 1. Maintenance Action For Maintenance Codes 176 And 180 (Continued)

Procedure	No	Yes
<p>(7) On RDDI, do substeps below:</p> <p>(a) Press and release MENU pushbutton switch until BIT pushbutton legend is displayed.</p> <p>(b) Press and release BIT pushbutton switch.</p> <p>(c) WITH DIGITAL DATA COMPUTER CONFIG/IDENT 89A AND UP, press and release COM pushbutton switch.</p> <p>(d) WITH DIGITAL DATA COMPUTER CONFIG/IDENT 91C AND UP, press and release COMM pushbutton switch.</p> <p>(e) WITH DIGITAL DATA COMPUTER CONFIG/IDENT 91C AND UP, press and release COM1 pushbutton switch.</p> <p>(f) Is DEGD displayed beside COM1: ON F/A-18A AND F/A-18B; ALSO F/A-18C AND F/A-18D 163427 THRU 164279 BEFORE F/A-18 AFC 185? ON 164627 AND UP?</p>	g h	b b
<p>b. Do the substeps below:</p> <p>(1) Remove electrical power (A1-F18AC-LMM-000).</p> <p>(2) Open door 13R (A1-F18AC-LMM-010).</p> <p>(3) Remove VHF/UHF Receiver-Transmitter No. 1 (A1-F18AC-600-300, WP003 00).</p> <p>(4) Remove lockwire and disconnect 76P-F004C from antenna selector.</p> <p>(5) Remove upper comm antenna (A1-F18AC-600-300, WP005 00).</p> <p>(6) Connect reflectometer to J3 of antenna selector and 76P-R013A.</p> <p>(7) Apply electrical power (A1-F18AC-LMM-000).</p> <p>(8) Test coax cable from antenna selector J3 to 76P-R013A using table 2. Do repair tools and equipment time domain reflectometer (A1-F18A()-WRM-000).</p> <p>(9) Do coax cables and antenna selector test good?</p>	d	c
<p>c. Do the substeps below:</p> <p>(1) Replace upper comm antenna (A1-F18AC-600-300, WP005 00).</p> <p>(2) Do step 1.</p>		

Table 1. Maintenance Action For Maintenance Codes 176 And 180 (Continued)

Procedure	No	Yes
(3) Do Data Link System Functional Test (A1-F18AC-630-200, WP014 00 or A1-F18AE-630-200, WP015 00)	-	-
d. Do the substeps below:		
(1) Remove electrical power (A1-F18AC-LMM-000).		
(2) Remove lockwire and disconnect 76P-F004B from antenna selector.		
(3) Connect reflectometer to 76P-F004B.		
(4) Test coax cable from 76P-F004B to 76P-R013A using table 2. Do repair tools and equipment time domain reflectometer (A1-F18A()-WRM-000).		
(5) Do coax cables test good?	e	f
e. Do the substeps below:		
(1) Isolate defective coax cable (table 2, this WP, and A1-F18A()-WDM-000).		
(2) Do step 1.		
(3) Do VHF/UHF Communication System Built-In Test (A1-F18AC-600-200, WP003 00).		
(4) Do Data Link System Functional Test (A1-F18AC-630-200, WP014 00 or A1-F18AE-630-200, WP015 00).....	-	-
f. Do the substeps below:		
(1) Replace antenna selector (A1-F18AC-600-300, WP008 00).		
(2) Do step 1.		
(3) Do VHF/UHF Communication System Built-In Test (A1-F18AC-600-200, WP003 00).	-	-
g. Do the substeps below:		
(1) Remove electrical power (A1-F18AC-LMM-000).		
(2) Open door 13R (A1-F18AC-LMM-010).		
(3) Remove VHF/UHF Receiver-Transmitter No. 1 (A1-F18AC-600-300, WP003 00).		
(4) Remove lockwire and disconnect 76P-F004C from antenna selector.		
(5) Get access to 76P-F012A through nose wheelwell. Remove lockwire and disconnect 76P-F012A from lower aft comm antenna.		









Table 1. Maintenance Action For Maintenance Codes 176 And 180 (Continued)

Procedure	No	Yes
<p>(6) Connect reflectometer to J3 of antenna selector and 76P-F012A.</p> <p>(7) Apply electrical power (A1-F18AC-LMM-000).</p> <p>(8) On ANT SEL control panel assembly, set ANT SET-COMM 1 switch to LOWER.</p> <p>(9) Test coax cable from antenna selector J3 to 76P-F012A using table 2. Do repair tools and equipment time domain reflectometer (A1-F18A()-WRM-000).</p> <p>(10) Do coax cables and antenna selector test good?</p> <p>h. Do the substeps below:</p> <p>(1) Remove electrical power (A1-F18AC-LMM-000).</p> <p>(2) Open door 13R (A1-F18AC-LMM-010).</p> <p>(3) Remove VHF/UHF Receiver-Transmitter ARC No. 1 (A1-F18AC-600-300, WP003 00).</p> <p>(4) Remove lockwire and disconnect 76P-F004C from antenna selector.</p> <p>(5) Remove lower forward comm antenna (A1-F18AC-600-300, WP006 00).</p> <p>(6) Remove lockwire and disconnect 76P-B011A from lower forward comm antenna.</p> <p>(7) Connect reflectometer to J3 of antenna selector and 76P-B011A.</p> <p>(8) Apply electrical power (A1-F18AC-LMM-000).</p> <p>(9) On ANT SEL control panel assembly, set ANT SET-COMM 1 switch to LOWER.</p> <p>(10) Test coax cable from antenna selector J3 to 76P-B011A using table 2. Do repair tools and equipment time domain reflectometer (A1-F18A()-WRM-000).</p> <p>(11) Do coax cables and antenna selector test good?</p> <p>i. Do the substeps below:</p> <p>(1) Replace lower forward comm antenna (A1-F18AC-600-300, WP 005 00) or lower aft comm antenna (A1-F18AC-600-300, WP007 00).</p> <p>(2) Do step l.</p> <p>(3) Do Data Link System Functional Test (A1-F18AC-630-200, WP014 00 or A1-F18AE-630-200, WP015 00)</p> <p>j. Do the substeps below:</p> <p>(1) Remove electrical power (A1-F18AC-LMM-000).</p>	<p>j</p> <p>k</p> <p>-</p>	<p>i</p> <p>i</p> <p>-</p>

Table 1. Maintenance Action For Maintenance Codes 176 And 180 (Continued)

Procedure	No	Yes
<p>(2) Remove lockwire and disconnect 76P-F004F from antenna selector.</p> <p>(3) Connect reflectometer to 76P-F004F.</p> <p>(4) Test coax cable from 76P-F004F to 76P-F012A using table 2. Do repair tools and equipment time domain reflectometer (A1-F18A()-WRM-000).</p> <p>(5) Do coax cables test good?</p>	e	f
<p>k. Do the substeps below:</p> <p>(1) Remove electrical power (A1-F18AC-LMM-000).</p> <p>(2) Remove lockwire and disconnect 76P-F004D from antenna selector.</p> <p>(3) Connect reflectometer to 76P-F004D.</p> <p>(4) Test coax cable from 76P-F004D to 76P-B011A using table 2. Do repair tools and equipment time domain reflectometer (A1-F18A()-WDM-000).</p> <p>(5) Do coax cables test good?</p>	e	f
<p>l. If disconnected, removed, or opened during this procedure, make sure items listed below are connected, installed, or closed:</p> <p>(1) 76P-F004B (safety with lockwire)</p> <p>(2) 76P-F004C (safety with lockwire)</p> <p>(3) 76P-F004F (safety with lockwire)</p> <p>(4) 76P-R013A (safety with lockwire)</p> <p>(5) 76P-B011A (safety with lockwire)</p> <p>(6) 76P-F012A (safety with lockwire)</p> <p>(7) VHF/UHF Receiver-Transmitter No. 1</p> <p>(8) Upper comm antenna</p> <p>(9) Lower forward comm antenna</p> <p>(10) Door 13R.....</p>	-	-

Table 2. Coax Cable Parameters

Cable Number	Connector	Impedance (Ohms)	Dielectric Type	Maximum Millirho	Cable Length (Inches)
RU77B RU77B RU77A RU77A RU78C RU78A RU56A RU56B RU56C	 76P-R013A to J3	50	PTFE	±600	249
	 76P-R013A to J3	50	PTFE	±600	281
	 76P-R013A to 76P-F019	50	PTFE	±600	133
	 76P-R013A to 76J-R019	50	PTFE	±600	121
	 76J-F019 to 76P-F004B	50	PTFE	±600	116
	 76P-F019 to 76P-F004B	50	PTFE	±600	160
	76P-F012A to 76P-F004F	50	PTFE	±600	31
	76P-F012A to 76P-F029	50	PTFE	±600	17
	76J-F029 to 76P-F004F	50	PTFE	±600	14
	76P-F004D to 76P-B011A	50	PTFE	±600	198
	76P-F004D to 76J-F005	50	PTFE	±600	16
	76P-F005 to 76J-B018	50	PTFE	±600	133
	76P-B011A to 76P-B018	50	PTFE	±600	49
	F/A-18A AND F/A-18C.				
	F/A-18B AND F/A-18D.				

ORGANIZATIONAL MAINTENANCE

FAULT ISOLATION MANUAL

TROUBLESHOOTING PROCEDURE

EFFECTIVITY: F/A-18C AND F/A-18D WITH RT-1556()/ARC INSTALLED; ALSO F/A-18C AND F/A-18D WITH RT-1556()/ARC INSTALLED AFTER F/A-18 AFC 185

Reference Material

Line Maintenance Procedures.....	A1-F18AC-LMM-000
Line Maintenance Access Doors.....	A1-F18AC-LMM-010
Communications, TACAN, ADF, Electronic Altimeter, and IFF Systems.....	A1-F18AC-600-300
Receiver-Transmitter RT-1556()/ARC.....	WP003 00

Alphabetical Index

Subject	Page No.
Table 1.....	1
Table 2.....	6

Record of Applicable Technical Directives

Type/ Number	Date	Title and ECP No.	Date Incorp.	Remarks
F/A-18 AFC 185	-	Incorporation of Havequick/Sincgars (ECP MDA-F/A-18-0292R2)	15 Aug 94	-

Table 1. Maintenance Action For Maintenance Codes 237 And 180

Support Equipment Required	
Part Number or Type Designation	Nomenclature
1502B-03-04MODNB (1502-04)	Time Domain Reflectometer
74D420048-1001	TDR Adapter Kit

Table 1. Maintenance Action For Maintenance Codes 237 And 180 (Continued)

Materials Required		
Specification or Part Number	Nomenclature	
MS20995NC20 (CAGE 96906)	Lockwire	
NOTE		
VHF/UHF Receiver-Transmitter No. 1 Functional Schematic (A1-F18AC-600-500, WP005 00) and Data Link System Message Receiving, Transmitting, and Mode Control Functional Schematic (A1-F18AC-630-510/(C), WP010 00) may be used for this procedure.		
For locator, refer to A1-F18AC-600-200, WP016 00 and A1-F18AE-630-200, WP017 00.		
Malfunction is caused by one of the items below:		
Antenna selector Upper comm antenna Lower aft comm antenna Lower forward comm antenna Coax cables		
Procedure	No	Yes
a. Do the substeps below:		
(1) Apply electrical power (A1-F18AC-LMM-000).		
(2) On GND PWR control panel assembly, set and hold 1 switch to A ON and 2 switch to B ON for 3 seconds.		
(3) On left and right Digital Display Indicator (LDDI and RDDI), set power switch to NIGHT or DAY. Allow 2 minute warmup. Adjust BRT and CONT controls for best display.		
(4) On electronic equipment control, do substeps below:		
(a) Turn COMM 1 VOL control cw to midposition.		
(b) Adjust BRT/DIM control for best display.		
(c) Pull COMM 1 channel selector to the extended position and release.		
(d) Press option four select switch until :AM or :FM is displayed in option four display.		

Table 1. Maintenance Action For Maintenance Codes 237 And 180 (Continued)

Procedure	No	Yes
(e) Turn COMM 1 channel selector until M is displayed on the COMM 1 channel display. (f) Enter an inactive frequency using keyboard switches. (g) Press ENT keyboard switch. (5) On ANT SEL control panel assembly, set ANT SEL-COMM 1 switch to UPPER. (6) On right throttle grip, momentarily key COMM 1 (COMM switch up). (7) On RDDI, do substeps below: (a) Press and release MENU pushbutton switch until BIT pushbutton legend is displayed. (b) Press and release BIT pushbutton switch. (c) Press and release COMM pushbutton switch. (d) Press and release COM1 pushbutton switch. (e) Is DEGD displayed beside COM1?	g	b
b. Do the substeps below: (1) Remove electrical power (A1-F18AC-LMM-000). (2) Open door 13R (A1-F18AC-LMM-010). (3) Remove VHF/UHF Receiver-Transmitter No. 1 (A1-F18AC-600-300, WP003 00). (4) Remove lockwire and disconnect 76P-F004C from antenna selector. (5) Remove upper comm antenna (A1-F18AC-600-300, WP005 00). (6) Connect reflectometer to J3 of antenna selector and 76P-R013A. (7) Apply electrical power (A1-F18AC-LMM-000). (8) Test coax cable from antenna selector J3 to 76P-R013A using table 2. Do repair tools and equipment time domain reflectometer (A1-F18A()-WRM-000). (9) Do coax cables and antenna selector test good?	d	c
c. Do the substeps below: (1) Replace upper comm antenna (A1-F18AC-600-300, WP005 00). (2) Do step j.		

Table 1. Maintenance Action For Maintenance Codes 237 And 180 (Continued)

Procedure	No	Yes
(3) Do Data Link System Functional Test (A1-F18AE-630-200, WP015 00)	-	-
d. Do the substeps below:		
(1) Remove electrical power (A1-F18AC-LMM-000).		
(2) Remove lockwire and disconnect 76P-F004B from antenna selector.		
(3) Connect reflectometer to 76P-F004B.		
(4) Test coax cable from 76P-F004B to 76P-R013A using table 2. Do repair tools and equipment time domain reflectometer (A1-F18A()-WRM-000).		
(5) Do coax cables test good?	e	f
e. Do the substeps below:		
(1) Isolate defective coax cable (table 2, this WP, and A1-F18A()-WDM-000).		
(2) Do step j.		
(3) Do VHF/UHF Communication System Built-In Test (A1-F18AC-600-200, WP003 00).		
(4) Do Data Link System Functional Test (A1-F18AE-630-200, WP015 00)	-	-
f. Do the substeps below:		
(1) Replace antenna selector (A1-F18AC-600-300, WP008 00).		
(2) Do step j.		
(3) Do VHF/UHF Communication System Built-In Test (A1-F18AC-600-200, WP003 00).	-	-
g. Do the substeps below:		
(1) Remove electrical power (A1-F18AC-LMM-000).		
(2) Open door 13R (A1-F18AC-LMM-010).		
(3) Remove VHF/UHF Receiver-Transmitter No. 1 (A1-F18AC-600-300, WP003 00).		
(4) Remove lockwire and disconnect 76P-F004C from antenna selector.		
(5) Remove lower forward comm antenna (A1-F18AC-600-300, WP005 00).		
(6) Remove lockwire and disconnect 76P-B011A from lower forward comm antenna.		
(7) Connect reflectometer to J3 of antenna selector and 76P-B011A.		

Table 1. Maintenance Action For Maintenance Codes 237 And 180 (Continued)

Procedure	No	Yes
(8) Apply electrical power (A1-F18AC-LMM-000).		
(9) On ANT SEL control panel assembly, set ANT SET-COMM 1 switch to LOWER.		
(10) Test coax cable from antenna selector J3 to 76P-B011A using table 2. Do repair tools and equipment time domain reflectometer (A1-F18A()-WRM-000).		
(11) Do coax cables and antenna selector test good?	i	h
h. Do the substeps below:		
(1) Replace lower forward comm antenna (A1-F18AC-600-300, WP 006 00).		
(2) Do step j.		
(3) Do Data Link System Functional Test (A1-F18AE-630-200, WP015 00)	-	-
i. Do the substeps below:		
(1) Remove electrical power (A1-F18AC-LMM-000).		
(2) Remove lockwire and disconnect 76P-F004D from antenna selector.		
(3) Connect reflectometer to 76P-F004D.		
(4) Test coax cable from 76P-F004D to 76P-B011A using table 2. Do repair tools and equipment time domain reflectometer (A1-F18A()-WDM-000).		
(5) Do coax cables test good?	e	f
j. If disconnected, removed, or opened during this procedure, make sure items listed below are connected, installed, or closed:		
(1) 76P-F004B (safety with lockwire)		
(2) 76P-F004C (safety with lockwire)		
(3) 76P-R013A (safety with lockwire)		
(4) 76P-B011A (safety with lockwire)		
(5) VHF/UHF Receiver-Transmitter No. 1		
(6) Upper comm antenna		
(7) Lower forward comm antenna		
(8) Door 13R.....	-	-

Table 2. Coax Cable Parameters

Cable Number	Connector	Impedance (Ohms)	Dielectric Type	Maximum Millirho	Cable Length (Inches)
RU77B RU77B RU77A RU77A RU56A RU56B RU56C	1 76P-R013A to J3	50	PTFE	±600	249
	2 76P-R013A to J3	50	PTFE	±600	281
	1 76P-R013A to 76P-F019	50	PTFE	±600	133
	2 76P-R013A to 76J-R019	50	PTFE	±600	121
	1 76J-F019 to 76P-F004B	50	PTFE	±600	116
	2 76P-F019 to 76P-F004B	50	PTFE	±600	160
	76P-F004D to 76P-B011A	50	PTFE	±600	198
	76P-F004D to 76J-F005	50	PTFE	±600	16
	76P-F005 to 76J-B018	50	PTFE	±600	133
	76P-B011A to 76P-B018	50	PTFE	±600	49
1 F/A-18C.					
2 F/A-18D.					

ORGANIZATIONAL MAINTENANCE

FAULT ISOLATION MANUAL

TROUBLESHOOTING PROCEDURE

This WP supersedes WP174 00, dated 15 December 1987.

Reference Material

Line Maintenance Procedures	A1-F18AC-LMM-000
Line Maintenance Access Doors.....	A1-F18AC-LMM-010
Electrical System	A1-F18AC-420-500
Power Distribution System	WP005 00

Alphabetical Index

Subject	Page No.
Cooling Fans Troubleshooting Schematic, Figure 1	8
Table 1	2

Record of Applicable Technical Directives

None

Table 1. Cooling Fans Will Not Shut Off When Ground Power Switches Are Set To AUTO During Ground Maintenance

Support Equipment Required

NOTE

Alternate item type designations or part numbers are listed in parentheses.

**Part Number or
Type Designation**

Nomenclature

260-6XLP
(AN/USM-311)

Multimeter

Materials Required

None

NOTE

Cooling Fans Troubleshooting Schematic (figure 1) may be used as an aid when doing this procedure.

For component locator, refer to A1-F18AC-420-500, WP005 00.

Malfunction is caused by one of the items below:

Aircraft Wiring
GND PWR Control Panel Assembly
No. 2 Circuit Breaker Panel Assembly
No. 2 Relay Panel Assembly
No. 4 Circuit Breaker Panel Assembly
No. 7 Circuit Breaker/Relay Panel Assembly

Procedure

No

Yes



To prevent damage to low level devices (switches/relay contacts), do not test for continuity with multimeter on the RX1 scale. Pin to pin tests that do not go through switches/relay contacts may use RX1 scale.

To prevent damage to aircraft wiring or equipment, make sure multimeter leads/jumper wires are installed on correct pins. When electrical power is off, 24vdc battery voltage exists on some pins of connectors listed below:

52P-C057E

Table 1. Cooling Fans Will Not Shut Off When Ground Power Switches Are Set To AUTO During Ground Maintenance (Continued)

Procedure	No	Yes
<p style="text-align: center;">NOTE</p> <p>The question used in logic tree "Does continuity exist" means to test for the items listed below:</p> <ol style="list-style-type: none"> 1. Pin to pin test per procedural step. 2. Shorts to ground. 3. Shorts between surrounding pins on connectors. 4. Shorts between shield and conductors. 5. Shield continuity. 		
a. On 161360 AND UP do step b; on 161353 THRU 161359, do substeps below:		
(1) Turn off electrical power (A1-F18AC-LMM-000).		
(2) Open door 10R (A1-F18AC-LMM-010).		
(3) Disconnect 52P-D024D from no. 2 circuit breaker panel assembly.		
(4) Turn on electrical power (A1-F18AC-LMM-000).		
(5) Does 28vdc exist between 52P-D024D pin 36 and aircraft ground?	c	l
b. Do substeps below:		
(1) Turn off electrical power (A1-F18AC-LMM-000).		
(2) Open door 10R (A1-F18AC-LMM-010).		
(3) Disconnect 52P-D026D from no. 4 circuit breaker panel assembly.		
(4) Turn on electrical power (A1-F18AC-LMM-000).		
(5) Does 28vdc exist between 52P-D026D pin 33 and aircraft ground?	c	l
c. Do substeps below:		
(1) Turn off electrical power (A1-F18AC-LMM-000).		
(2) Open door 10L (A1-F18AC-LMM-010).		
(3) Disconnect 52P-C057E from no. 7 circuit breaker/relay panel assembly.		
(4) Does continuity exist between 52P-C057E pin 67 and 52P-D024D pin 36 or 52P-D026D pin 33?	x	d

Table 1. Cooling Fans Will Not Shut Off When Ground Power Switches Are Set To AUTO During Ground Maintenance (Continued)

Procedure	No	Yes
d. Do substeps below:		
(1) Connect 52P-C057E to no. 7 circuit breaker/relay panel assembly.		
(2) Remove relay 1K-C103 from no. 7 circuit breaker/relay panel assembly.		
(3) Turn on electrical power (A1-F18AC-LMM-000).		
(4) Does 28vdc exist from:		
1K-C103 socket B2 to aircraft ground		
1K-C103 socket X1 to aircraft ground?	e	h
e. Do substeps below:		
(1) Turn off electrical power (A1-F18AC-LMM-000).		
(2) Disconnect 52P-C057E from no. 7 circuit breaker/relay panel assembly.		
(3) Does continuity exist between:		
52J-C057E pin 28 and 1K-C103 socket B2		
52J-C057E pin 61 and 1K-C103 socket X1?	f	g
f. Isolate defective no. 7 circuit breaker/relay panel assembly wiring (A1-F18AC-420-300, WP027 00) and do step z	-	-
g. Do substeps below:		
(1) Remove GND PWR control panel assembly (A1-F18AC-420-300, WP023 00).		
(2) Does continuity exist between:		
1P-H004 pin 25 and 52P-C057E pin 28		
1P-H004 pin 33 and 52P-C057E pin 61?	x	y
h. Do substeps below:		
(1) Turn off electrical power (A1-F18AC-LMM-000).		
(2) Remove relay 1K-C055 from no. 7 circuit breaker/relay panel assembly.		
(3) Turn on electrical power (A1-F18AC-LMM-000).		
(4) Does 28vdc exist from 1K-C055 socket X1 and aircraft ground?	j	i
i. Isolate malfunction between relays 1K-C055 and 1K-C103 and no. 7 circuit breaker/relay panel assembly wiring (A1-F18AC-420-300, WP027 00) and do step z	-	-

Table 1. Cooling Fans Will Not Shut Off When Ground Power Switches Are Set To AUTO During Ground Maintenance (Continued)

Procedure	No	Yes
j. Do substeps below:		
(1) Turn off electrical power (A1-F18AC-LMM-000).		
(2) Disconnect 52P-C057E from no. 7 circuit breaker/relay panel assembly.		
(3) Does continuity exist between 52J-C057E pin 88 and relay 1K-C055 socket X1?	f	k
k. Do substeps below:		
(1) Remove GND PWR control panel assembly (A1-F18AC-420-300, WP023 00).		
(2) Does continuity exist between 52P-C057E pin 88 and 1P-H004 pin 30?.....	x	y
l. Does 28vdc exist from:		
52P-D024D pin 21 (+) to pin 38 (-) or		
52P-D026D pin 35 (+) to pin 36 (-)?	m	p
m. Does 28vdc exist from:		
52P-D024D pin 21 to aircraft ground or		
52P-D026D pin 35 to aircraft ground?.....	o	n
n. Isolate defective aircraft wiring between 1P-C022 pin 12 and 52P-D024D pin 38 or		
52P-D026D pin 36 (A1-F18A()-WDM-000) and do step z	-	-
o. Do substeps below:		
(1) Remove GND PWR control panel assembly (A1-F18AC-420-300, WP023 00).		
(2) Does continuity exist between 1P-H004 pin 24 and 52P-D024D pin 21 or		
52P-D026D pin 35?	x	y
p. Do substeps below:		
(1) Turn off electrical power (A1-F18AC-LMM-000).		
(2) Open door 14R (A1-F18AC-LMM-010).		
(3) Disconnect 52P-F058B from no. 2 relay panel assembly.		
(4) Does continuity exist between 52P-F058B pin 29 and 52P-D024D pin 35 or		
52P-D026D pin 34?	x	q

Table 1. Cooling Fans Will Not Shut Off When Ground Power Switches Are Set To AUTO During Ground Maintenance (Continued)

Procedure	No	Yes
q. Do substeps below:		
(1) Connect 52P-D024D to no. 2 circuit breaker panel assembly or 52P-D026D to no. 4 circuit breaker panel assembly.		
(2) Turn on electrical power (A1-F18AC-LMM-000).		
(3) Does 28vdc exist from 52P-F058B pin 29 to aircraft ground?	r	s
r. Isolate malfunction between relay 1K-D104 and no. 2 circuit breaker panel assembly wiring (A1-F18AC-420-300, WP024 00) or no. 4 circuit breaker panel assembly wiring (A1-F18AC-420-300, WP025 00) and do step z.....	-	-
s. Does 28vdc exist from 52P-F058B pin 44 and pin 51?	t	w
t. Does 28vdc exist from 52P-F058B pin 44 and aircraft ground?	v	u
u. Isolate defective aircraft wiring between 52P-F058B pin 51 and 1P-C022 pin 12 (A1-F18A()-WDM-000) and do step z.....	-	-
v. Do substeps below:		
(1) Remove GND PWR control panel assembly (A1-F18AC-420-300, WP023 00).		
(2) Does continuity exist between 52P-F058B pin 44 and 1P-H004 pin 28?	x	y
w. Isolate malfunction between relays 1K-F081 and 1K-F059 and no. 2 relay panel assembly wiring (A1-F18AC-420-300, WP032 00) and do step z	-	-
x. Isolate defective aircraft wiring (A1-F18A()-WDM-000) and do step z	-	-
y. Replace GND PWR control panel assembly (A1-F18AC-420-300, WP023 00) and do step z	-	-
z. If disconnected, removed, or opened during this procedure, make sure the items listed below are connected, installed, or closed:		
(1) 52P-D024D		
(2) 52P-D026D		
(3) 52P-C057E		
(4) 52P-F058B		
(5) 1K-C055		
(6) 1K-C103		

**Table 1. Cooling Fans Will Not Shut Off When Ground Power Switches Are Set To
AUTO During Ground Maintenance (Continued)**

Procedure	No	Yes
(7) GND PWR control panel assembly		
(8) Door 10L		
(9) Door 10R		
(10) Door 14R.....	-	-

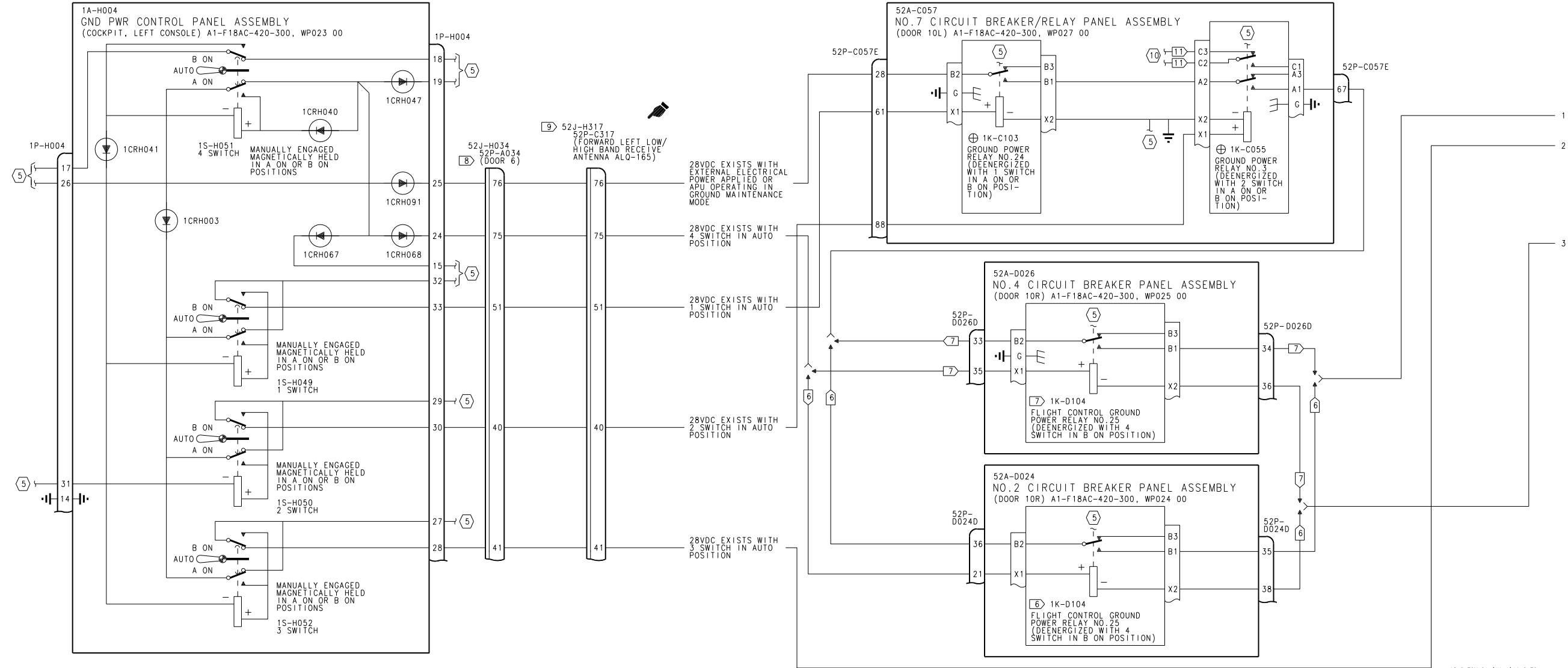
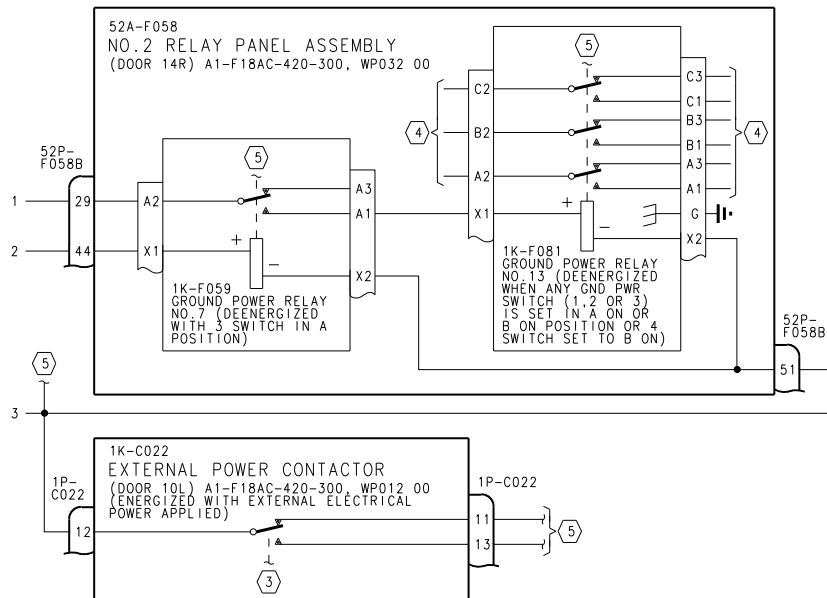


Figure 1.

Figure 1. Cooling Fans Troubleshooting Schematic (Sheet 1)

Figure 1.



LEGEND

1. CONTINUITY TESTS:

- ALL AIRCRAFT WIRE NUMBERS, SPICE POINTS, AND GROUND POINTS ARE SHOWN IN A1-F18A()-WDM-000.
- WHEN A LOW LEVEL CURRENT SWITCHING RELAY (IDENTIFIED BY \oplus) IS REMOVED FOR TROUBLESHOOTING, IDENTIFY RELAY AND SOCKET FOR CORRECT REINSTALLATION. DO NOT REPLACE LOW LEVEL CURRENT SWITCHING RELAY WITH ANY OTHER USED RELAY. IF RELAY IS DEFECTIVE, REPLACE WITH NEW RELAY.
- DO NOT TEST FOR CONTINUITY WITH MULTIMETER ON THE RX1 SCALE.
- WHEN TESTING CONTINUITY, TEST FOR:
 - SHORTS TO GROUND.
 - SHORTS BETWEEN SURROUNDING PINS ON CONNECTORS.
 - SHORTS BETWEEN SHIELD AND CONDUCTORS.
 - SHIELD CONTINUITY.

2. NONSTANDARD SYMBOL

- \oplus IDENTIFIES RELAY USED TO SWITCH LOW LEVEL CURRENT. SEE NOTE 1.

- (3) AC POWER SYSTEM SCHEMATIC, A1-F18AC-420-500, WP003 00.
- (4) AVIONICS COOLING SYSTEM SCHEMATIC-EXCEPT COCKPIT, A1-F18AC-410-500, WP009 00.
- (5) GROUND POWER SWITCHING SCHEMATIC, A1-F18AC-420-500, WP005 00.
- (6) 161353 THRU 161359.
- (7) 161360 AND UP.
- (8) 161353 THRU 163175.
- (9) 163427 AND UP.
- (10) COCKPIT AVIONICS COOLING SCHEMATIC, A1-F18AC-410-500, WP009 00.
- (11) F/A-18C 163985 AND UP.

Figure 1. Cooling Fans Troubleshooting Schematic (Sheet 2)

ORGANIZATIONAL MAINTENANCE

FAULT ISOLATION MANUAL

TROUBLESHOOTING PROCEDURE

EFFECTIVITY: 161353 THRU 163782

This WP supersedes WP175 00, dated 15 August 1990.

Reference Material

Line Maintenance Access Doors.....	A1-F18AC-LMM-010
Line Maintenance Procedures.....	A1-F18AC-LMM-000
Fault Isolation Manual.....	A1-F18AC-FIM-100
Alphabetical Index.....	WP001 00

Alphabetical Index

Subject	Page No.
Table 1.....	2
Controls and Indicators, Figure 1.....	6

Record of Applicable Technical Directives

None

Table 1. HI Map Does Not Stow

<p align="center">Support Equipment Required</p> <p align="center">None</p> <p align="center">Materials Required</p> <p align="center">None</p> <p align="center">NOTE</p> <p align="center">For component locator, refer to figure 1.</p> <p align="center">Memory Inspect data in this procedure is provided in A1-F18AC-FIM-100, WP001 00.</p> <p>Malfunction is caused by one of the items below:</p> <p>Air Data Computer CP-1334/A Catapult System Control-Converter C-10382/A Landing Gear System Pitch-Roll-Yaw Computer CP-1330/ASW (FCCA) Pitch-Roll-Yaw Computer CP-1330/ASW (FCCB) Receiver Transmitter RT-1015()/APN-194(V) Standby Pressure Altimeter (AAU-39/A)</p>		
Procedure	No	Yes
a. Test Horizontal Indicator IP-1350/A (HI) lamp for normal operation, do Displays Test (A1-F18AC-745-200, WP004 00 or WP005 00). Was HI operation normal?	b	c
b. Replace Horizontal Indicator IP-1350/A (A1-F18AC-745-300, WP006 00).....	-	-
c. Do substeps below:		
(1) If HI map did not stow during aircraft landing, do step d.		
(2) If HI map did not stow during catapult (launch bar extended), go to to step k.		
d. Was aircraft radar altitude operation normal?	e	f
e. Do substeps below:		
(1) If radar altitude was on but not valid, troubleshoot Electronic Altimeter System, Table 21 (A1-F18AC-FRM-000, WP005 00 or A1-F18AE-FRM-000, WP005 00). Do substeps below:		
(a) If system maintenance code 147 is set, refer to Maintenance Codes, Table 1 (A1-F18AC-FRM-000, WP003 00 or A1-F18AE-FRM-000, WP003 00) and do troubleshooting procedure for system maintenance code 147	-	-
(b) If system maintenance code 147 is not set, refer to Maintenance Codes, Table 1 (A1-F18AC-FRM-000, WP003 00 or A1-F18AE-FRM-000, WP003 00) and do troubleshooting procedure for system maintenance code 145.....	-	-

Table 1. HI Map Does Not Stow (Continued)

Procedure	No	Yes
(2) If radar altimeter was off, troubleshoot Air Data Computer System, Table 17 (A1-F18AC-FRM-000, WP005 00 or A1-F18AE-FRM-000, WP005 00). Do substeps below:		
(a) If system maintenance code 125 is set, refer to Maintenance Codes, Table 1 (A1-F18AC-FRM-000, WP003 00 or A1-F18AE-FRM-000, WP003 00) and do troubleshooting procedure for system maintenance code 125.....	-	-
(b) If system maintenance code 125 is not set, refer to Maintenance Codes, Table 1 (A1-F18AC-FRM-000, WP003 00 or A1-F18AE-FRM-000, WP003 00) and do troubleshooting procedure for system maintenance code 130.....	-	-
f. Was landing gear operation normal?.....	g	h
g. Troubleshoot Landing Gear System, Table 9 (A1-F18AC-FRM-000, WP005 00 or A1-F18AE-FRM-000, WP005 00). Do substeps below:		
(1) If system maintenance code(s) 890, 891, 892, 893, 894, or 895 are set, refer to Maintenance Codes, Table 1 (A1-F18AC-FRM-000, WP003 00 or A1-F18AE-FRM-000, WP003 00) and do troubleshooting procedure for maintenance code that is set.....	-	-
(2) If no system maintenance code(s) are set, do Normal Landing Gear System Operational Test, Table 1 (A1-F18AC-130-200, WP003 00)	-	-
h. Was flight control system operation normal?.....	i	j
i. Troubleshoot Flight Control System, Table 27 (A1-F18AC-FRM-000, WP005 00 or A1-F18AE-FRM-000, WP005 00). Do substeps below:		
(1) If system maintenance code(s) 217, 218, 219, 220, 221, or 222 are set, refer to Maintenance Codes, Table 1 (A1-F18AC-FRM-000, WP003 00 or A1-F18AE-FRM-000, WP003 00) and do troubleshooting procedure for maintenance code that is set.....	-	-
(2) If no system maintenance codes are set, do Preflight Built-In Test (A1-F18AC-570-200, WP003 00).....	-	-
j. Troubleshoot Mission Computer System, Table 13 (A1-F18AC-FRM-000, WP005 00 or A1-F18AE-FRM-000, WP005 00).		
k. Set up aircraft for simulated catapult launch and memory inspection of HI map stow data. Do substeps below:		
<div style="border: 2px solid black; padding: 5px; text-align: center; margin: 10px 0;">WARNING</div> <p>To prevent death or injury to personnel or damage to equipment, make sure area surrounding launch bar assembly and nosewheel travel is clear of personnel and obstructions.</p>		
(1) Do ground intercommunications hookup (A1-F18AC-LMM-000).		
(2) Apply external electrical and hydraulic power (A1-F18AC-LMM-000).		

Table 1. HI Map Does Not Stow (Continued)

Procedure	No	Yes
<p>(3) Do substeps below:</p> <ul style="list-style-type: none"> (a) On LH essential circuit breakers control panel assembly, close FCS CHAN 1 and CHAN 2 circuit breakers. (b) On RH essential circuit breakers control panel assembly, close FCS CHAN 3 and CHAN 4 circuit breakers. (c) On GND PWR control panel assembly, set and hold 1, 2, 3, and 4 switches to B ON for 3 seconds. (d) On LH vertical console control panel, set FLAP switch to AUTO. (e) On MAP GAIN control panel assembly, set SPIN switch to NORM. (f) On FSC Control Panel C-10406/ASW-44, set the GAIN switch to NORM then press and release T/O TRIM PUSH switch. (g) Wait 20 seconds for BIT to initialize. (h) On FCS Control Panel C-10406/ASW-44, press RESET switch. (i) On Height Indicator ID-2163/A (height indicator), turn PUSH TO TEST switch clockwise and allow 3 minute warmup. 		
<div style="text-align: center; border: 2px solid black; padding: 5px; width: fit-content; margin: 10px auto;">WARNING</div> <p>To prevent death or injury to personnel or damage to equipment, make sure area surrounding launch bar assembly and nosewheel travel is clear of personnel and obstructions.</p>		
<p>(4) On LH vertical console control panel, set LAUNCH BAR control switch to EXTEND. Observe indications below:</p> <ul style="list-style-type: none"> (a) LAUNCH BAR control switch remains in EXTEND position. (b) Launch bar assembly extends. (c) On LH advisory and threat warning indicator panel and F/A-18B and F/A-18D rear advisory and threat warning indicator panel, green L BAR indicator light comes on, red L BAR indicator light goes out. (5) Using unit address 28, memory inspect address for ref code 0DLAMP (A1-F18AC-FIM-100, WP001 00). (6) Verify RDDI DATA readout is 000001. (7) Using unit address 28, memory inspect address for ref code 0DMAPY (A1-F18AC-FIM-100, WP001 00). (8) Verify RDDI DATA readout is 022400. (9) Using unit address 28, memory inspect address for ref code 0DMAP0 (A1-F18AC-FIM-100, WP001 00). (10) Verify RDDI DATA readout is 040000. 		

Table 1. HI Map Does Not Stow (Continued)

Procedure	No	Yes
(11) Using unit address 28, memory inspect address for ref code 0DXMSW (A1-F18AC-FIM-100, WP001 00).		
(12) Verify RDDI DATA readout is 150000.		
(13) Were memory inspection readouts good?	l	b
l. Was catapult system operation in substep k(4) normal?	m	n
m. Troubleshoot Catapult System, Table 38 (A1-F18AC-FRM-000, WP005 00 or A1-F18AE-FRM-000, WP005 00)	-	-
n. Troubleshoot Flight Control System, Table 27 (A1-F18AC-FRM-000, WP005 00 or A1-F18AE-FRM-000, WP005 00). Do substeps below:		
(1) If system maintenance code(s) 251 or 252 are set, refer to Maintenance Codes, Table 1 (A1-F18AC-FRM-000, WP003 00 or A1-F18AE-FRM-000, WP003 00) and do troubleshooting procedure for maintenance code that is set	-	-
(2) If no system maintenance codes are set, do Preflight Built-In Test (A1-F18AC-570-200, WP003 00)	-	-

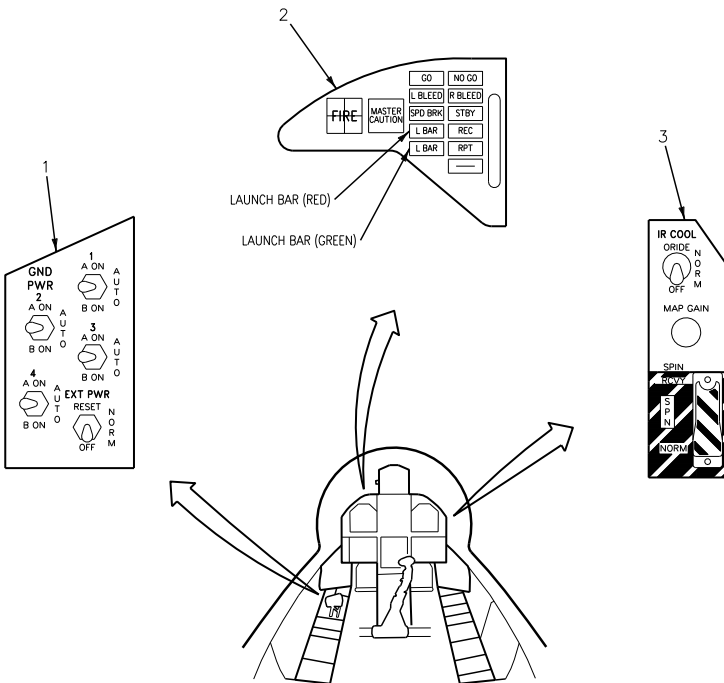


Figure 1. Controls and Indicators (Sheet 1)

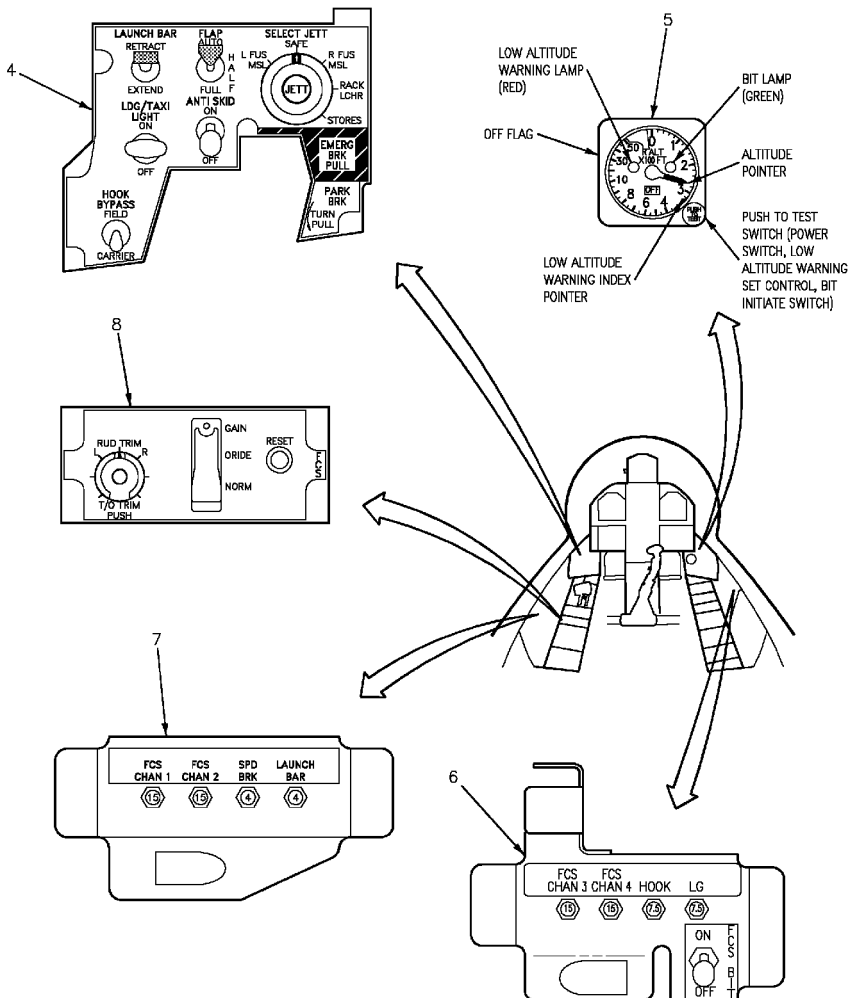


Figure 1. Controls and Indicators (Sheet 2)

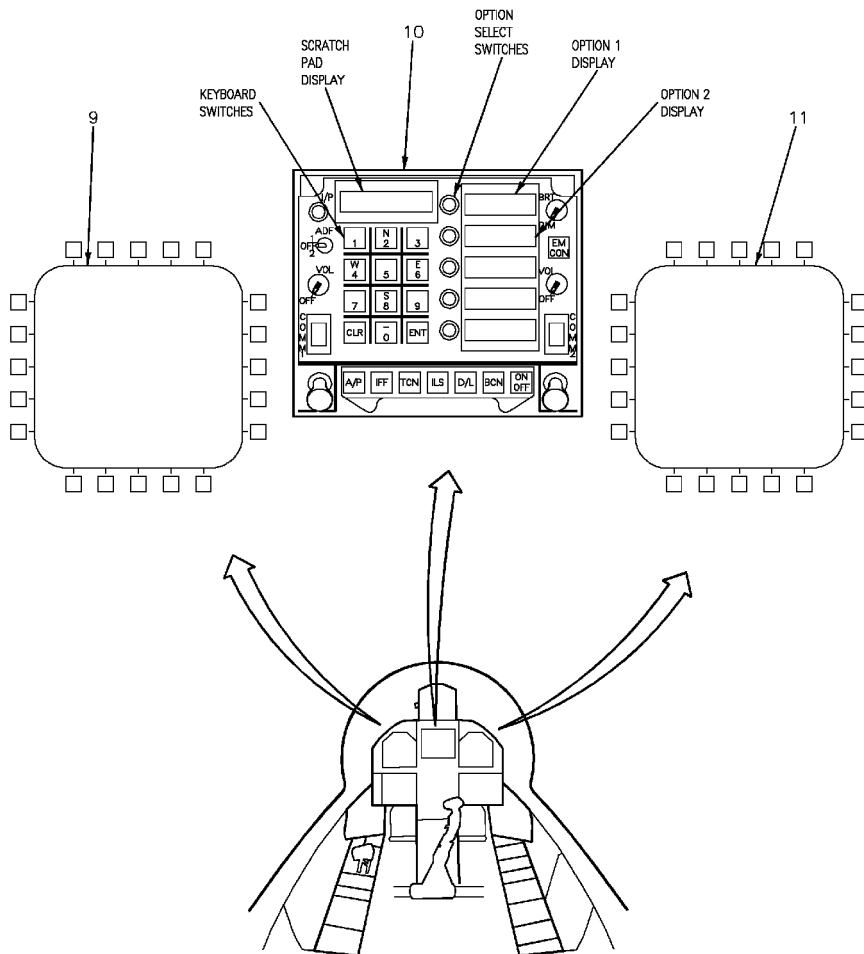


Figure 1. Controls and Indicators (Sheet 3)

Nomenclature	Index No.	Ref Des
ELECTRONIC EQUIPMENT CONTROL	10	79A-J006
FCS CONTROL PANEL	8	84A-H003
GND PWR CONTROL PANEL ASSEMBLY	1	1A-H004
HEIGHT INDICATOR	5	67A-J002
LEFT DIGITAL DISPLAY INDICATOR	9	80A-H001
LH ADVISORY AND THREAT WARNING INDICATOR PANEL	2	52A-H073
LH ESSENTIAL CIRCUIT BREAKERS CONTROL PANEL ASSEMBLY	7	52A-H093
LH VERTICAL CONSOLE CONTROL PANEL ASSEMBLY	4	52A-H077
MAP GAIN CONTROL PANEL ASSEMBLY	3	52A-J076
RH ESSENTIAL CIRCUIT BREAKERS CONTROL PANEL ASSEMBLY	6	52A-J094
RIGHT DIGITAL DISPLAY INDICATOR	11	80A-J002

Figure 1. Controls and Indicators (Sheet 4)

ORGANIZATIONAL MAINTENANCE

FAULT ISOLATION MANUAL

TROUBLESHOOTING PROCEDURE

Reference Material

Line Maintenance Access Doors.....	A1-F18AC-LMM-010
Line Maintenance Procedures.....	A1-F18AC-LMM-000
Maintenance Status Display and Recording System	A1-F18AC-580-500
Component Locator.....	WP003 00

Alphabetical Index

Subject	Page No.
Table 1.....	1

Record of Applicable Technical Directives

None

Table 1. E BATT LO Caution Displayed

Support Equipment Required

NOTE

Alternate item type designations or part numbers are listed in parentheses.

**Part Number or
Type Designation**

260-6XLP
(AN/USM-311)

Nomenclature

Multimeter

Table 1. E BATT LO Caution Displayed (Continued)


<p align="center">Materials Required</p> <p align="center">None</p> <p align="center">NOTE</p> <p>Electrical and Hydraulic Systems Interface Schematic (A1-F18AC-580-500, WP017 00) may be used as an aid when doing this procedure.</p> <p>For component locator, refer to A1-F18AC-580-500, WP003 00.</p> <p>Malfunction is caused by one of the items below:</p> <p>Aircraft Wiring Signal Data Recorder RO-508/ASM-612</p>		
Procedure	No	Yes
<p align="center"></p> <p>To prevent damage to aircraft wiring or equipment make sure multimeter leads/jumper wires are installed on correct pins. When electrical power is off, 24vdc battery voltage exists on some pins of connectors listed below:</p> <p align="center">85P-F001A</p> <p align="center">NOTE</p> <p>The question used in logic tree "Does continuity exist" means to test for the items listed below:</p> <ol style="list-style-type: none"> 1. Pin to pin test per procedural step. 2. Shorts to ground. 3. Shorts between surrounding pins on connectors. 4. Shorts between shield and conductors. 5. Shield continuity. <p>a. Do substeps below:</p> <ol style="list-style-type: none"> (1) Make sure electrical power is off (A1-F18AC-LMM-000). (2) Open door 14R (A1-F18AC-LMM-010). (3) Disconnect 85P-F001A from Signal Data Recorder RO-508/ASM-612. (4) Does continuity exist from 85P-F001A pin 28 to aircraft ground? <p>b. Isolate and repair defective wiring (A1-F18A()-WDM-000) and do step d</p>		
	b	c
	-	-

Table 1. E BATT LO Caution Displayed (Continued)

Procedure	No	Yes
c. Replace Signal Data Recorder RO-508/ASM-612 (A1-F18AC-580-300, WP004 00) and do step d.....	-	-
d. If disconnected, removed, or opened during this procedure, make sure items below are connected, installed, or closed:		
(1) 85P-F001A		
(2) Door 14R.....	-	-

